GENERAL NOTES

APPLICABLE TO ALL DRAWINGS UNLESS NOTED OR SHOWN OTHERWISE

GENERAL NOTES

100IN001-1

1. INTERPRETATION OF DRAWINGS & SPECIFICATIONS
   A. WHERE SPECIFICATIONS HAVE BEEN PREPARED FOR THIS PROJECT, THEY ARE ARRANGED IN SEVERAL SECTIONS, BUT SUCH SEPARATION SHALL NOT BE CONSIDERED AS THE LIMITS OF THE WORK REQUIRED OF ANY SEPARATE TRADE. THE TERMS AND CONDITIONS OF SUCH LIMITATIONS ARE WHOLLY BETWEEN THE CONTRACTOR AND HIS SUBCONTRACTORS.
   B. IN GENERAL, THE WORKING DETAILS WILL INDICATE DIMENSIONS, POSITION AND KIND OF CONSTRUCTION, AND THE SPECIFICATIONS, QUALITIES AND METHODS. ANY WORK INDICATED ON THE WORKING DETAILS AND NOT MENTIONED IN THE SPECIFICATIONS, OR VICE VERSA, SHALL BE FURNISHED AS THOUGH FULLY SET FORTH IN BOTH. WORK NOT PARTICULARLY DETAILED, MARKED OR SPECIFIED, SHALL BE IDENTICAL OR SIMILAR TO LIKE CASES OF CONSTRUCTION THAT ARE DETAILED, MARKED OR SPECIFIED. IF CONFLICTS OCCUR ON DRAWINGS AND/OR SPECIFICATIONS, THE MOST EXPENSIVE MATERIALS OR METHODS WILL PREVAIL.
   C. SHOULD AN ERROR APPEAR IN THE WORKING DETAILS OR SPECIFICATIONS OR IN WORK DONE BY OTHERS AFFECTING THIS WORK, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AT ONCE AND IN WRITING. IF THE CONTRACTOR PROCEEDS WITH THE WORK SO AFFECTED WITHOUT HAVING GIVEN SUCH WRITTEN NOTICE AND WITHOUT RECEIVING THE NECESSARY APPROVAL, DECISION OR INSTRUCTIONS IN WRITING FROM THE OWNER, THEN HE SHALL HAVE NO VALID CLAIM AGAINST THE OWNER, FOR THE COST OF SO PROCEEDING AND SHALL MAKE GOOD ANY RESULTING DAMAGE OR DEFECT. NO VERBAL APPROVAL, DECISION, OR INSTRUCTION SHALL BE VALID OR BE THE BASIS FOR ANY CLAIM AGAINST THE OWNER, ITS OFFICERS, EMPLOYEES OR AGENTS. THE FOREGOING INCLUDES TYPICAL ERRORS IN THE SPECIFICATIONS OR NOTATIONAL ERRORS IN THE WORKING DETAILS WHERE THE INTERPRETATION IS DOUBTFUL OR WHERE THE ERROR IS SUFFICIENTLY APPARENT AS TO PLACE A REASONABLY PRUDENT CONTRACTOR ON NOTICE THAT, SHOULD HE ELECT TO PROCEED, HE IS DOING SO AT HIS OWN RISK.
2. CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE CODES AND REGULATIONS.
3. SHOP DRAWING NOTE:
   A. WHEN NOT ADDRESSED BY DIVISION 1 OF THE SPECIFICATIONS, PAPER FORMAT STRUCTURAL SHOP DRAWINGS SHALL BE SUBMITTED IN THE FORM OF THREE COPIES MINIMUM OF EACH SHEET. WHERE SUBMITTALS ARE ELECTRONIC, FORMAT SHALL BE PDF.
   B. THE PURPOSE OF SHOP DRAWING SUBMITTALS BY THE CONTRACTOR IS TO DEMONSTRATE TO THE STRUCTURAL ENGINEER THAT HE UNDERSTANDS THE DESIGN CONCEPT BY INDICATING WHICH MATERIAL HE INTENDS TO FURNISH AND INSTALL, AND BY DETAILING THE FABRICATION AND INSTALLATION METHODS HE INTENDS TO USE ON A STAND ALONE SET OF DOCUMENTS. DUPLICATION OF DESIGN DOCUMENTS FOR THE PURPOSE OF SHOP DRAWINGS IS NOT ACCEPTABLE.
   C. PRIOR TO FABRICATION, SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW BY THE STRUCTURAL ENGINEER. SHOP DRAWING SUBMITTALS SHALL INCLUDE, BUT ARE NOT NECESSARILY LIMITED TO, STRUCTURAL STEEL, REINFORCING STEEL, & GLUE-LAMINATED BEAMS.
   D. PRIOR TO SUBMISSION THE CONTRACTOR SHALL REVIEW ALL SUBMITTALS FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS AND SHALL STAMP SUBMITTALS AS BEING "REVIEWED FOR CONFORMANCE".
   E. SHOP DRAWING SUBMITTALS PROCESSED BY THE STRUCTURAL ENGINEER ARE NOT CHANGE ORDERS.
   F. ANY DETAIL ON THE SHOP DRAWINGS THAT DEVIATES FROM THE CONTRACT DOCUMENTS SHALL CLEARLY BE MARKED WITH THE NOTE "THIS IS A CHANGE".
   G. SHOP DRAWINGS OR CALCULATIONS SUBMITTED FOR REVIEW THAT REQUIRE RESUBMITTAL FOR RE-REVIEW SHALL BE BILLED HOURLY FOR SUCH TIME TO THE GENERAL CONTRACTOR. RE-REVIEW WILL NOT PROCEED WITHOUT WRITTEN APPROVAL FROM THE GENERAL CONTRACTOR FOR ADDITIONAL ENGINEERING REVIEW SERVICES.
4. SAFETY NOTE:
   A. IT IS THE CONTRACTORS RESPONSIBILITY TO COMPLY WITH THE PERTINENT SECTIONS, AS THEY APPLY TO THIS PROJECT, OF THE "CONSTRUCTION SAFETY ORDERS" ISSUED BY THE STATE WHERE THE PROJECT IS LOCATED, LATEST EDITION, AND ALL OSHA REQUIREMENTS.
   B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATE DESIGN AND CONSTRUCTION OF ALL FORMS AND SHORING REQUIRED. SHORING INDICATIONS (LOCATION, DIRECTION, DURATION, ETC.) ARE ONLY SHOWN ON THE STRUCTURAL DRWGS WHEN REQUIRED TO IMPLEMENT THE DESIGN INTENT OF THE FINAL WORK PRODUCT. DETERMINATION WHETHER SHORING IS REQUIRED FOR TEMPORARY OR INTERMEDIATE CONDITIONS DURING CONSTRUCTION IS WHOLLY THE RESPONSIBILITY OF THE CONTRACTOR.
   C. THE OWNER AND THE STRUCTURAL ENGINEER DO NOT ACCEPT ANY RESPONSIBILITY FOR THE CONTRACTOR'S FAILURE TO COMPLY WITH THESE REQUIREMENTS.
5. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND STRUCTURAL ENGINEER WHERE A CONFLICT OR DISCREPANCY OCCURS BETWEEN THE STRUCTURAL DRAWINGS AND ANY OTHER PORTION OF THE CONTRACT DOCUMENTS OR EXISTING FIELD CONDITIONS. SUCH NOTIFICATION SHALL BE GIVEN IN DUE TIME SO AS NOT TO AFFECT THE CONSTRUCTION SCHEDULE. IN CASE OF A CONFLICT BETWEEN STRUCTURAL DRAWINGS AND SPECIFICATIONS THE MORE RESTRICTIVE CONDITION SHALL TAKE PRECEDENCE UNLESS WRITTEN APPROVAL HAS BEEN GIVEN FOR THE LEAST RESTRICTIVE. CONTRACTOR SHALL VERIFY ALL DIMENSIONS WITH ARCHITECTURAL PRIOR TO COMMENCING ANY WORK.
6. WHEN CONSTRUCTION ATTACHES TO OR IS WITHIN AN EXISTING BUILDING, A COMPLETE SET OF DRAWINGS OF THE EXISTING BUILDING SHALL BE KEPT ON THE JOB SITE. CONTRACTOR TO OBTAIN THESE DRAWINGS FROM THE OWNER (IF THEY ARE AVAILABLE).
7. CONTRACTOR SHALL PROVIDE AN ALLOWANCE EQUAL TO 2% OF THE BID FOR STRUCTURAL STEEL, MISC. IRON AND REINFORCING STEEL TO BE USED AT THE DISCRETION OF THE STRUCTURAL ENGINEER. UNUSED AMOUNT TO REVERT TO THE OWNER UPON COMPLETION OF THE JOB.
8. ANY SUBSTITUTIONS FOR STRUCTURAL MEMBERS, HARDWARE OR DETAILS SHALL BE REVIEWED BY THE ARCHITECT AND STRUCTURAL ENGINEER. SUCH REVIEW WILL BE BILLED ON A TIME AND MATERIALS BASIS TO THE GENERAL CONTRACTOR WITH NO GUARANTEE THAT THE SUBSTITUTION WILL BE ALLOWED.
9. DO NOT SCALE DRAWINGS. CONTACT THE ARCHITECT OR STRUCTURAL ENGINEER FOR ANY DIMENSIONS NOT SHOWN.
10. THESE DRAWINGS ARE NOT COMPLETE UNTIL REVIEWED AND ACCEPTED BY THE ENFORCEMENT AGENCY AND THE OWNER AND SIGNED BY THE STRUCTURAL ENGINEER.

ABBREVIATIONS

100SN003-1

AB	ANCHOR BOLT	MB	MACHINE BOLT
ABV	ABOVE	MFR	MANUFACTURER
BLW	BELOW	MI	MALLEABLE IRON
BOF	BOTTOM OF FOOTING	MTL	METAL
BRG	BEARING	(N)	NEW
BTWN	BETWEEN	NIC	NOT IN CONTRACT
CC	CENTER TO CENTER	NS	NEAR SIDE
CTJ	CONTROL JOINT	NTS	NOT TO SCALE
CJP	COMPLETE JOINT PENETRATION	NW	NORMAL WEIGHT
CLR	CLEAR	OH	OPPOSITE HAND
CMU	CONCRETE MASONRY UNIT	OSB	ORIENTED STRAND BOARD
CJ	CONSTRUCTION JOINT	PC	PIECE
CONT	CONTINUOUS	PJP	PARTIAL JOINT PENETRATION
CONTR	CONTRACTOR	PT	PRESSURE TREATED
CSK	COUNTERSINK	REIN	REINFORCING
DF	DOUGLAS FIR	RWD	REDWOOD
DL	DEAD LOAD	SC	SLIP CRITICAL
DO	DITTO	SHTG	SHEATHING
DWG	DRAWING	SIM	SIMILAR
(E)	EXISTING	SMS	SHEET METAL SCREW
EF	EACH FACE	SP	STRUCTURAL PANEL
EJ	EXPANSION JOINT	STFNR	STIFFENER
EL	ELEVATION	STGRD	STAGGERED
EN	EDGE NAILING	STL	STEEL
EOS	EDGE OF SLAB	T&B	TOP & BOTTOM
EQ	EQUAL	T&G	TONGUE & GROOVE
EW	EACH WAY	THRD	THREADED
EWEF	EACH WAY EACH FACE	TN	TOE NAIL
FB	FACE OF BLOCK(OR BRICK) OR FLAT BAR	TO	TOP OF
		TOC	TOP OF CONCRETE (SLAB UNO)
FC	FACE OF CONCRETE OR FRAMING CLIP(SIMPSON A35 UNO)	TOF	TOP OF FOOTING OR TOP OF FRAMING
FF	FINISH FLOOR	TOS	TOP OF STEEL
FS	FACE OF STUD OR FAR SIDE	TOW	TOP OF WALL
FT	FIRE TREATED	UNO	UNLESS NOTED OTHERWISE
GA	GAUGE OR GAGE	W/	WITH
GLB	GLUED LAMINATED BEAM	W/O	WITHOUT
HB	HEADED BOLT	WP	WORK POINT
HDG	HOT DIPPED GALVANIZED	WS	WOOD SCREW
HDR	HEADER	WWF	WELDED WIRE FABRIC
HSB	HIGH STRENGTH BOLT	CL	CENTERLINE
HSS	HOLLOW STRUCTURAL SECTION	PL	PLATE
HT	HEIGHT	WF	WIDE FLANGE
JH	JOIST HANGER	#	NUMBER OR POUNDS
LL	LIVE LOAD	SQ	SQUARE
LLH	LONG LEG HORIZONTAL	Ø	ROUND OR DIAMETER
LLV	LONG LEG VERTICAL	[symbol]	CONT WOOD IN SECTION
LS	LAG SCREW	[symbol]	WOOD BLOCKING IN SECTION
LW	LIGHT WEIGHT	[symbol]	END OF WOOD PIECE
LWIC	LIGHT WEIGHT INSULATING CONC	(A)	"MEMBER" ABOVE
		(B)	"MEMBER" BELOW

DESIGN CRITERIA

100IN002-1

1. CODES AND STANDARDS
   2012 INTERNATIONAL BUILDING CODE (IBC)
   ASCE 7-10
   ACI 318-11
   AISC 360-10, 341-10, 358-10
   TMS 402-08/ACI 530-11/ASCE 5-11
   TMS 602-08/ACI 530.1-11/ASCE 6-11
   2008 NDS
2. VERTICAL LOADS
   ROOF LIVE LOAD = 20 PSF
   LIVE LOADS ARE REDUCED WHERE PERMITTED BY CODE.
3. SOILS VALUES
   ALLOWABLE SOILS PRESSURE
   A. DL 1500 PSF
   B. DL + LL 1500 PSF
   C. DL + LL + SEISMIC 2000 PSF
   FOOTING
   MINIMUM DEPTH = 18"
   MINIMUM WIDTH = 12"
4. LATERAL LOADS
   SEISMIC:
   SITE CLASS D CS = 0.3265
   SS = 1.959 ; SDS = 1.306
   S1 = 0.827 ; SD1 = 0.827
   R = 4.0 ; I = 1.0
   ΩO = 2.5 ; CD = 4.0
   I_P= 1.0 TYPICAL
   I_P= 1.5 PER ASCE 7-05 SECT 13.1.3
   OCCUPANCY CATEGORY: II
   SEISMIC DESIGN CATEGORY: D
   SEISMIC BASE SHEAR
   = 18.1 KIPS (NS DIR.)
   = 18.1 KIPS (EW DIR.)
   SEISMIC FORCE RESISTING SYSTEM:
   (E) ORDINARY REINF. CONC. SHEAR WALLS
   ANALYSIS PROCEDURE:
   EQUIVALENT LATERAL FORCE PROCEDURE
   WIND:
   BASIC WIND SPEED = 85 MPH (ASD)
   = 110 MPH (ULT)
   RISK CATEGORY: II
   EXPOSURE CATEGORY: C
   IW = 1.0; GCPI = +/- 0.18

STATEMENT OF STRUCTURAL SPECIAL INSPECTIONS AND TESTING

100IN004-1

1. SPECIAL INSPECTIONS AND TESTING SHALL BE PROVIDED BY AN INSPECTION AGENCY, EMPLOYED BY THE OWNER, AND QUALIFIED BY THE BUILDING OFFICIAL TO INSPECT THE PARTICULAR TYPE OF CONSTRUCTION. TESTS AND INSPECTIONS, AS REQUIRED BY SECTIONS 110, 1704, 1707, AND 1708 OF THE 2009 IBC, SHALL BE PERFORMED DURING CONSTRUCTION ON THE TYPES OF WORK LISTED BELOW:

	INSPECTIONS	TESTING
■ STEEL CONSTRUCTION	SECTION 1704.3 & TABLE 1704.3	SECTION 1708.4
■ CONCRETE CONSTRUCTION	SECTION 1704.4 & TABLE 1704.4	SECTION 1708.3
☐ MASONRY CONSTRUCTION-LEVEL 1	SECTION 1704.5 & TABLE 1704.5.1	TABLE 1708.1.2
☐ MASONRY CONSTRUCTION-LEVEL 2	SECTION 1704.5 & TABLE 1704.5.3	TABLE 1708.1.4
☐ WOOD CONSTRUCTION	SECTION 1704.6	-
☐ HIGH-LOAD DIAPHRAGM	SECTION 1704.6.1	-
■ SOILS	SECTION 1704.7 & TABLE 1704.7	-
☐ PILE FOUNDATIONS	SECTION 1704.8 & TABLE 1704.8	-
☐ PIER FOUNDATIONS	SECTION 1704.9 & TABLE 1704.9	-
■ POST-INSTALLED ANCHORS	MANUFACTURER'S ICC REPORT	-

2. INSPECTIONS MAY BE CONTINUOUS OR PERIODIC AS ALLOWED BY THE INDIVIDUAL MATERIAL OR COMPONENT INSPECTION SECTIONS AND TABLES OF SECTION 1704.
3. THE SPECIAL INSPECTOR SHALL SUBMIT INSPECTION REPORTS TO THE BUILDING OFFICIAL AND THE DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. THE REPORTS SHALL INDICATE WHETHER WORK INSPECTED CONFORMED TO THE CONSTRUCTION DOCUMENTS. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF DISCREPANCIES ARE NOT CORRECTED, THEY SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND THE DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.
4. ALL SPECIAL INSPECTION AGENCIES / INDIVIDUALS AND SHOP FABRICATORS SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO COMMENCEMENT OF WORK.
5. TESTING AND INSPECTION RECORDS SHALL BE RETAINED UNTIL COMPLETION OF CONSTRUCTION.
6. THE CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT TO THE BUILDING OFFICIAL ACKNOWLEDGING RESPONSIBILITY FOR CONSTRUCTION OF THE MAIN LATERAL-FORCE RESISTING SYSTEM PRIOR TO COMMENCEMENT OF THAT WORK AS REQUIRED BY SECTION 1706 OF THE 2009 IBC.
7. SPECIAL INSPECTIONS FOR SEISMIC AND WIND RESISTANCE SHALL BE CONDUCTED FOR ALL ITEMS LISTED IN SECTION 1705.3 AND 1705.4 AS APPLICABLE. SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE SHALL INCLUDE ALL ITEMS IN SECTION 1707. STRUCTURAL TESTING FOR SEISMIC RESISTANCE SHALL BE IN ACCORDANCE WITH SECTION 1708.
8. MASONRY CONSTRUCTION LEVEL 1 APPLIES TO STRUCTURES CLASSIFIED AS OCCUPANCY CATEGORY I ONLY.
9. ALL SOILS AND FOUNDATION EXCAVATION INSPECTIONS SHALL BE BY THE GEOTECHNICAL ENGINEER OF RECORD.
10. FOR TESTING AND INSPECTION REQUIREMENTS FOR NON-STRUCTURAL MATERIALS AND COMPONENTS, SEE CONSTRUCTION DOCUMENTS AND COMPLY WITH CHAPTER 17 OF THE 2009 IBC.

FOUNDATIONS

200SN001-1

1. ALL FOUNDATION WORK SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF 2009 IBC
2. FOUNDATIONS SHALL BEAR ON COMPACTED NATIVE SOIL
   SEE NOTES AND DETAILS ON SHEET S1.02
3. SOIL MUST BE COMPACTED TO A MINIMUM 95% RELATIVE COMPACTION.
4. THE EXTENT AND DEPTH OF OVEREXCAVATION AND PLACEMENT OF ENGINEERED FILL SHALL AT A MINIMUM BE AS SHOWN ON THE PLANS.
5. BOTTOMS OF ALL FOUNDATIONS SHALL BE LEVEL. CHANGES IN BOTTOM OF FOUNDATION ELEVATION SHALL BE MADE ACCORDING TO STEPPED FOOTING DETAIL ON THE TYPICAL DETAIL SHEET.
6. THE SURFACE OF ALL HORIZONTAL CONSTRUCTION JOINTS SHALL BE CLEANED & ROUGHENED BY EXPOSING CLEAN AGGREGATE SOLIDLY EMBEDDED IN MORTAR MATRIX.
7. NOTIFY THE STRUCTURAL ENGINEER 48 HOURS BEFORE CASTING FOUNDATIONS.
8. TESTING SHALL BE COMPLETED BY CONTRACTOR-RETAINED THIRD PARTY.

CONCRETE

300SN001-1

1. STRUCTURAL CONCRETE SHALL ATTAIN 28 DAY COMPRESSIVE STRENGTH AS REQUIRED IN NOTE #28. MAXIMUM SLUMP SHALL NOT EXCEED 4 INCHES.
2. CONCRETE MIX DESIGNS SHALL BE PREPARED BY A REGISTERED CIVIL ENGINEER, REVIEWED BY OWNER'S TESTING LABORATORY AND SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW.
3. CEMENTITIOUS MATERIALS:
   CEMENT SHALL CONFORM TO ASTM C-150 TYPE I OR II.
   FLY ASH SHALL CONFORM TO ASTM C-618. MAX. QUANTITY OF FLY ASH SHALL BE AS GIVEN IN SPECS (15% MAX UNO).
4. CONCRETE AGGREGATES SHALL CONFORM TO ASTM C-33 FOR NORMAL WEIGHT CONCRETE AND ASTM C-330 FOR LIGHTWEIGHT CONCRETE.
5. NON-SHRINK GROUT OR DRYPACK SHALL CONSIST OF A PREMIXED NONMETALLIC FORMULA.
6. REINFORCING STEEL SHALL CONFORM TO ASTM A-615 GRADE 60 FOR #3 AND LARGER, EXCEPT REINFORCING STEEL TO BE WELDED SHALL CONFORM TO ASTM A-706. CONTRACTOR SHALL SUBMIT REBAR MILL CERTIFICATES.
7. ALL PREHEATING AND WELDING OF REINFORCING BARS SHALL BE DONE IN ACCORDANCE WITH AWS D1.4 LATEST EDITION AND SHALL BE CONTINUOUSLY INSPECTED BY A QUALIFIED LABORATORY. CONTRACTOR SHALL FURNISH WPS FOR ALL REBAR WELDING TO THE LABORATORY.
8. REINFORCING STEEL SHALL BE FABRICATED ACCORDING TO "MANUAL OF STANDARD PRACTICE FOR REINFORCED CONCRETE CONSTRUCTION".
9. WIRE FABRIC SHALL CONFORM TO ASTM A-185.
10. DIMENSIONS SHOWN FOR LOCATION OF REINFORCING ARE TO THE FACE OF BARS LISTED AND DENOTE CLEAR COVERAGE. NON-PRESTRESSED, CAST-IN-PLACE CONCRETE COVERAGE SHALL BE AS FOLLOWS, UNO:
    CONCRETE DEPOSITED DIRECTLY AGAINST GROUND (EXCEPT SLABS)--- 3"
    CONCRETE EXPOSED TO GROUND OR WEATHER BUT PLACED IN FORMS:
    #5 AND SMALLER---------------------------- 1-1/2"
    #6 AND LARGER----------------------------- 2"
    BEAMS & COLUMNS (TIES)------------------------ 1-1/2"
    BEAMS & COLUMNS (MAIN REINFORCING)---------------- 2"
    CAST-IN-PLACE WALLS (EXTERIOR FACE & SOIL SIDE)--------- SEE ABOVE
    CAST-IN-PLACE WALLS (INTERIOR FACE-#11 & SMALLER)------- 3/4"
    TILT-UP WALLS------------------------------- SEE DETAILS
    SLABS (ON FORMS)---------------------------- 3/4"
    SLABS (ON GROUND)------------------- 2" CLEAR FROM TOP UNO
11. SPLICES IN CONTINUOUS REINFORCEMENT SHALL BE LAPPED UNO, SEE SCHEDULE THIS SHEET. SPLICES IN ADJACENT BARS SHALL BE GREATER THAN 5'-0" APART. SPLICE CONTINUOUS BARS IN SOIL-BEARING GRADE BEAMS, STRUCTURAL SLABS ON GRADE AND MAT FOUNDATIONS AS FOLLOWS UNO: TOP BARS AT CENTERLINE OF SUPPORT; BOTTOM BARS AT MID-SPAN. SPLICE CONTINUOUS BARS IN ELEVATED SLABS AND BEAMS, ETC. AS FOLLOWS UNO: TOP BARS AT MID-SPAN; BOTTOM BARS AT CENTERLINE OF SUPPORT. ALL BARS SIZE #14 AND LARGER SHALL BE CONTINUOUS FOR FULL LENGTH SHOWN OR SPLICED WITH MECHANICAL COUPLERS AS NOTED IN DETAILS. SPLICES IN WWF SHALL BE 1-1/2 MESHES WIDE.
12. THE MINIMUM CLEAR SPACING BETWEEN PARALLEL BARS IN A LAYER SHALL NOT BE LESS THAN THE LARGER OF BAR DIAMETER, 1", OR 33% GREATER THAN THE MAXIMUM AGGREGATE SIZE (NOMINAL), WHICHEVER IS GREATEST. THIS REQUIREMENT ALSO APPLIES TO THE CLEAR SPACING BETWEEN DIFFERENT LAYERS OF PARALLEL BARS AND TO THE CLEAR DISTANCE BETWEEN A CONTACT LAP SPLICE AND ADJACENT SPLICES OR BARS.
13. ALL HOOKS SHALL BE STANDARD HOOKS UNLESS OTHERWISE SHOWN OR NOTED. AT WALLS, PROVIDE HOOKS AT ENDS OF ALL REINFORCING AT ENDS, CORNERS AND INTERSECTIONS, UNO.
14. CONSTRUCTION JOINTS SHALL BE MADE ROUGH AND ALL LAITANCE REMOVED FROM THE SURFACE. CONCRETE MAY BE ROUGHENED BY CHIPPING THE ENTIRE SURFACE, SAND BLASTING, OR RAKING THE SURFACE TO PROVIDE 1/4" DEEP DEFORMATIONS.
15. REMOVE ALL DEBRIS FROM FORMS BEFORE CASTING ANY CONCRETE.
16. REINFORCING, DOWELS, BOLTS, ANCHORS, SLEEVES, ETC. TO BE EMBEDDED IN CONCRETE SHALL BE SECURELY POSITIONED BEFORE PLACING CONCRETE.
17. ANCHOR BOLTS (AB'S) CAST IN CONCRETE OR MASONRY FOR WALL SILL AND LEDGER\APPLICATIONS SHALL BE HEADED BOLTS WITH CUT THREADS CONFORMING TO ASTM A307, UNO. REFER TO "WOOD" NOTES FOR ADDITIONAL REQUIREMENTS FOR BOLTS IN CONTACT WITH PRESSURE TREATED OR FIRE RETARDANT MATERIAL. REFER TO 'STRUCTURAL STEEL' NOTE FOR REQUIREMENTS FOR ANCHOR RODS (AR'S) CAST IN CONCRETE FOR COLUMN BASE PLATE AND STEEL EMBED APPLICATIONS.
18. WALLS SHALL BE CAST IN HORIZONTAL LAYERS OF 2'-0" MAXIMUM DEPTH.
19. CONCRETE IN WALLS, PIERS OR COLUMNS SHALL SET AT LEAST 2 HOURS BEFORE PLACING CONCRETE IN BEAMS, SPANDRELS, OR SLABS SUPPORTED THEREON.
20. HORIZONTAL WALL BARS IN MULTI-CURTAIN CAST IN PLACE WALLS SHALL BE STAGGERED.
21. DOWEL ALL VERTICAL REINFORCING IN WALLS AND COLUMNS FROM FOUNDATION WITH SAME SIZE BAR.
22. CONSOLIDATE CONCRETE PLACED IN FORMS BY MECHANICAL VIBRATING EQUIPMENT SUPPLEMENTED BY HAND-SPADING, RODDING OR TAMPING. USE EQUIPMENT AND PROCEDURES FOR CONSOLIDATION OF CONCRETE IN ACCORDANCE WITH THE RECOMMENDED PRACTICES OF ACI 309 TO SUIT THE TYPE OF CONCRETE AND PROJECT CONDITIONS. CONCRETE SHALL NOT BE DROPPED THROUGH REINFORCING STEEL (AS IN WALLS) SO AS TO CAUSE SEGREGATION OF AGGREGATES. IN SUCH CASES HOPPERS AND CHUTES OR TRUNKS OF VARIABLE LENGTHS SHALL BE USED SO THAT THE FREE UNCONFINED FALL OF CONCRETE SHALL NOT EXCEED 6 FEET.
23. NO WOOD SPREADERS ALLOWED. NO WOOD STAKES ALLOWED IN AREAS TO BE CONCRETED.
24. ADDITIONAL REINFORCING IN PRECAST OR TILT-UP PANELS REQUIRED FOR LIFTING STRESSES SHALL BE SUPPLIED BY CONTRACTOR.
25. PROVIDE #5 X 4'-0" DIAGONAL REINFORCING AT TOP AND BOTTOM OF SLAB AT ALL RE-ENTRANT CORNERS TYPICAL. THIS APPLIES TO SLAB ON GRADE, CONCRETE OVER METAL DECK, AND ELEVATED STRUCTURAL SLAB CONDITIONS.
26. ALL SAW CUTTING SHALL BE DONE AFTER INITIAL SET HAS OCCURRED TO AVOID TEARING OR DAMAGE BY THE SAW BLADE, BUT BEFORE INITIAL SHRINKAGE HAS OCCURRED.
27. NOTIFY STRUCTURAL ENGINEER A MINIMUM OF 48 HOURS BEFORE PLACING ANY CONCRETE.
28. CONCRETE STRENGTHS & MIX PROPERTIES:

	ITEM	F'C @ 28 DAYS	MAX AGGR. SIZE	WEIGHT	MAX W/CM* RATIO
A.	FOUNDATIONS, ELEVATOR PITS, TIE BEAMS	3000 PSI	1-1/2"	NW	0.58
B.	SLAB ON GRADE	3500 PSI	1"	NW	0.45
C.	NW CONC FILL OVER MTL DECK	3500 PSI	3/4"	NW	0.52
D.	SITE AND MISCELLANEOUS - SEE CIVIL OR ARCH'L DRAWINGS			NW	0.56

* W/CM = WATER : CEMENTITIOUS MATERIAL RATIO

DRILLED-IN ANCHORS

305SN001-1

1. FOR CONCRETE CONSTRUCTION, EPOXY ANCHORS SHALL BE HILTI HIT-RE 500-SD PER ESR-2322, HILTI HIT-HY 200 PER ESR-3013 OR SIMPSON SET-XP PER ESR-2508 FOR THR'D ROD & REBAR. EXPANSION ANCHORS SHALL BE HILTI KB-TZ PER ESR-1917 OR SIMPSON STRONG-BOLT 2 PER ESR-3037. SCREW ANCHORS SHALL BE HILTI KWIK HUS-EZ (KH-EZ) PER ESR-3027 OR SIMPSON TITEN HD PER ESR-2713.
2. FOR MASONRY CONSTRUCTION, EPOXY ANCHORS SHALL BE HILTI HIT HY 150 MAX PER ESR-1967 OR SIMPSON SET PER ESR-1772 FOR THRD'D ROD & REBAR. EXPANSION ANCHORS SHALL BE HILTI KWIK BOLT 3 (KB3) PER ESR-1385 OR SIMPSON WEDGE-ALL PER ESR-1396. SCREW ANCHORS SHALL BE HILTI HUS-H PER ESR-2369 OR SIMPSON TITEN HD PER ESR-1056.
3. ANCHOR TYPE, SIZE & EMBEDMENT SHALL BE INDICATED IN DRAWINGS. POST-INSTALLED ANCHORS FOR REPAIR SHALL BE EVALUATED ON A CASE BY CASE BASIS. NOTIFY STRUCTURAL ENGINEER FOR REPAIRS.
4. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS GIVEN IN THE ICC REPORT.
5. UNLESS NOTED OTHERWISE ANCHORS HAVE BEEN DESIGNED FOR SPECIAL INSPECTION. PROVIDE SPECIAL INSPECTION AS INDICATED IN THE ICC REPORT.
6. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING CONCRETE OR MASONRY, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING EXISTING REINFORCING BARS. DO NOT INSTALL ANCHORS IN PRESTRESSED CONCRETE ELEMENTS.
7. ANCHORS INSTALLED FROM THE BOTTOM INTO METAL DECK WITH CONCRETE SHALL BE INSTALLED IN THE CENTER OF THE LOW FLUTE OF THE DECKING UNLESS NOTED OTHERWISE IN ICC REPORT. THE DECKING SHALL HAVE A MINIMUM THICKNESS OF 20 GAUGE. THE MINIMUM THICKNESS OF THE CONCRETE ABOVE THE HIGH FLUTE OF THE METAL DECK SHALL BE AS INDICATED IN THE ICC REPORT. SEE ICC REPORT FOR ADDITIONAL REQUIREMENTS, INCLUDING MINIMUM DIMENSIONS FOR FLUTE WIDTH AND DEPTH.
8. THE INSPECTION OF THE ANCHORS SHALL BE DONE BY A QUALIFIED INSPECTION AGENCY AND A REPORT OF THE INSPECTION RESULTS SHALL BE SUBMITTED TO THE GOVERNING AGENCY AND ARCHITECT/STRUCTURAL ENGINEER.

STRUCTURAL STEEL

500SN001-1

1. FABRICATION, ERECTION AND MATERIALS SHALL CONFORM WITH THE AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, THE AISC SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS, AND THE INTERNATIONAL BUILDING CODE, LATEST EDITIONS.
2. STRUCTURAL STEEL WIDE FLANGE SHAPES SHALL CONFORM WITH ASTM A992. ALL OTHER STRUCTURAL STEEL ROLLED SHAPES (CHANNELS, ANGLES, ETC) AND PLATES SHALL CONFORM WITH ASTM A36, UNO.
   STEEL PIPE SHALL CONFORM TO ASTM A53, TYPES E OR S, GRADE B.
3. ALL HOLLOW STRUCTURAL SECTIONS (HSS) SHALL CONFORM TO ASTM A500, GRADE B.
4. ALL STRUCTURAL STEEL SHALL RECEIVE A MINIMUM OF ONE SHOP COAT OF RED PRIMER PAINT. DO
5. NOT PAINT AREAS TO BE FIELD WELDED, FIREPROOFED, GALVANIZED, TO RECEIVE SLIP-CRITICAL HIGH STRENGTH BOLTS, OR TO BE EMBEDDED IN CONCRETE. PROVIDE ADDITIONAL PAINTING AS NOTED IN THE SPECIFICATIONS.
   ALL STRUCTURAL STEEL SHALL BE ERECTED PLUMB AND TRUE TO LINE. TEMPORARY BRACING SHALL
6. BE INSTALLED AND SHALL BE LEFT IN PLACE UNTIL OTHER MEANS ARE PROVIDED TO ADEQUATELY BRACE THE STRUCTURE. CONTRACTOR RESPONSIBLE FOR REVIEWING ALL BASE PLATE AND SUPPORT CONDITIONS DURING ERECTION AND BRACING AS REQUIRED. SEE AISC AND OSHA REQUIREMENTS. PLACE NON-SHRINK GROUT UNDER ALL BASE PLATES BEFORE ADDING VERTICAL LOAD.
7. STRUCTURAL STEEL BELOW GRADE SHALL HAVE 3 INCHES MINIMUM OF CONCRETE COVER.
8. BOLTED CONNECTIONS:
9. A. BOLTED CONNECTIONS SHALL CONSIST OF UNFINISHED BOLTS CONFORMING TO ASTM A307 UNLESS NOTED OTHERWISE. WHERE HIGH STRENGTH BOLTS ARE INDICATED, BOLTS CONFORMING TO ASTM A325 OR ASTM A490 AS NEEDED SHALL BE PROVIDED. ANCHOR RODS CAST IN CONCRETE OR MASONRY SHALL BE HEADED BOLTS WITH CUT THREAD, FULL DIAMETER BODY STYLE CONFORMING TO ASTM F1554 GR. 36, 55 (WELDABLE PER S1 SUPPLEMENTARY REQUIREMENTS), OR 105 AS INDICATED ON DRAWINGS.
   B. ALL BOLTED CONNECTIONS AND BASE PLATES SHALL HAVE WASHERS CONFORMING TO ASTM F436 INLESS NOTED OTHERWISE. WASHERS MAY BE OMITTED AT SNUG-TIGHTENED STEEL-TO-STEEL CONNECTIONS, EXCEPT WHERE REQUIRED BY THE TCSC SPECIFICATION FOR STRUCTURAL JOINTS, LATEST EDITION. WASHERS FOR BASE PLATES SHALL CONFORM TO ASTM F844 UNLESS NOTED OTHERWISE, AND SHALL BE PLACED AT TOP AND BOTTOM OF PLATE.
10. "SLIP-CRITICAL" BOLTED CONNECTIONS:
    A. "SLIP-CRITICAL" CONNECTIONS (A325SC DESIGN VALUES WITH SPECIAL INSPECTION) ARE REQUIRED AT ALL BRACED FRAME CONNECTIONS, AT ALL CONNECTIONS ALONG CHORD LINES AND DRAG LINES (AS NOTED ON PLANS), AND UNO, AT ALL BOLTS IN OVERSIZED OR SLOTTED HOLES.
    B. THE SPECIAL INSPECTOR MUST BE PRESENT DURING INSTALLATION AND TIGHTENING OPERATION OF "SLIP-CRITICAL" CONNECTIONS.
    C. WASHERS MAY BE OMITTED AT "SLIP CRITIAL" CONECTIONS EXCEPT WHERE REQUIRED BY THE RCSC SPECIFICATION FOR STRUCURAL JOINTS, LATEST EDITION.
11. PROVIDE 1/2" DIAMETER STITCH BOLTS AND RING FILLS, SPACED AT NOT MORE THAN 2'-0" ON CENTER FOR ALL DOUBLE ANGLE MEMBERS.
12. AT WOOD TO STEEL PARALLEL CONTACT, BOLT WITH 1/2" DIAMETER BOLTS AT MAXIMUM 24"CC.
13. HOLES FOR UNFINISHED BOLTS SHALL BE OF THE SAME NOMINAL DIAMETER OF THE BOLT PLUS 1/16". USE STANDARD AISC GAGE AND PITCH FOR BOLTS EXCEPT AS NOTED OTHERWISE.
14. WELDING SHALL BE DONE BY THE ELECTRIC ARC PROCESS IN ACCORDANCE WITH AMERICAN WELDING SOCIETY STANDARDS, USING ONLY CERTIFIED WELDERS. ALL GROOVE WELDS SHALL HAVE COMPLETE PENETRATION UNLESS NOTED OTHERWISE. ALL EXPOSED WELDS SHALL BE GROUND SMOOTH. ALL ELECTRODES FOR WELDING SHALL COMPLY WITH AWS CODE, E70 SERIES MINIMUM.
15. WELD LENGTHS CALLED FOR ON PLANS ARE THE NET EFFECTIVE LENGTHS REQUIRED.
16. MINIMUM FILLET WELDS: 3/16" @ T < 1/2"
    1/4" @ T < 3/4"
    5/16" @ T > 3/4"
17. WELDING PROCEDURE SPECIFICATIONS (WPS) FOR SHOP AND FIELD PREQUALIFIED WELD JOINTS AND WELD JOINTS QUALIFIED BY TEST SHALL BE PREPARED FOR REVIEW PRIOR TO FABRICATION. ALL WELDING PROCEDURE ITEMS SUCH AS BASE METALS, WELDING PROCESSES, FILLER METALS AND JOINT DETAILS THAT MEET THE REQUIREMENTS OF AWS D1.1 SECTION 5.1 SHALL BE CONSIDERED AS PREQUALIFIED. ANY CHANGE OR SUBSTITUTION THAT IS BEYOND THE RANGE OR TOLERANCE OR REQUIREMENTS FOR PREQUALIFICATION SHALL BE QUALIFIED BY TEST PER AWS D1.1 SECTION 5 PART B. QUALIFICATION TESTING IS REQUIRED WHEN THE DEPTH OF A PARTIAL PENETRATION OR COMPLETE PENETRATION WELD IS 2" OR GREATER.
18. FOR NONDESTRUCTIVE TESTING OF WELDED CONNECTIONS EXCLUDING PRIMARY MEMBERS OF MOMENT RESISTING FRAMES:
    A. WELDED CONNECTIONS SHALL BE TESTED BY NONDESTRUCTIVE METHODS FOR COMPLIANCE WITH AISC J2, AND JOB SPECIFICATIONS. ULTRASONIC TESTING SHALL BE IN ACCORDANCE WITH AWS D1.1, ASTM E164 AND ASME SECTION V. RADIOGRAPHY SHALL BE IN ACCORDANCE WITH AWS D1.1, ASTM E94 AND E99, AND ASME SECTION V. THIS TESTING SHALL BE PART OF THE SPECIAL INSPECTION REQUIREMENTS OF IBC SECTION 1704.3 PERFORMED BY AN APPROVED INDEPENDENT TESTING LABORATORY AS FOLLOWS:
       1. BASE METAL THICKER THAN 1 INCH WHEN SUBJECT TO THROUGH THICKNESS WELD SHRINKAGE STRAINS.
       2. ALL COMPLETE JOINT PENETRATION GROOVE OR BUTT WELDS.
       3. ALL PARTIAL JOINT PENETRATION GROOVE WELDS WHEN USED IN COLUMN SPLICES.
    B. ANY MATERIAL DISCONTINUITIES SHALL BE ACCEPTED OR REJECTED ON THE BASIS OF DEFECT RATING IN ACCORDANCE WITH THE (LARGER REFLECTOR) CRITERIA OF AISC J2.

POWDER ACTUATED FASTENERS (SHOT PINS)

100SN016-1

1. THESE NOTES GOVERN ALL CONDITIONS CALLED OUT ON THE PLANS AS 'SHOT PINS' UNLESS SPECIFICALLY NOTED OTHERWISE.
2. ALL SHOT PINS SHALL BE X-U UNIVERSAL KNURLED SHANK FASTENERS WITH SHANK DIAMETER OF 0.157" AS MANUFACTURED BY HILTI INCORPORATED IN ACCORDANCE WITH ICC ESR-2269 AND THE CURRENT EDITION OF THE HILTI 'PRODUCT TECHNICAL GUIDE.'
3. ALL SHOT PINS SHALL INCLUDE P8 STEEL WASHERS.
4. SHOT PINS DRIVEN INTO STEEL BASE MATERIAL SHALL MAINTAIN A MINIMUM EDGE DISTANCE AT ALL STEEL ELEMENTS OF 1/2" AND MINIMUM FASTENER SPACING SHALL BE 1". LENGTH OF PIN SHALL BE AS REQUIRED TO PENETRATE THRU STEEL MEMBER U.N.O. AT 3/4" THICK STEEL, PENETRATION NEED NOT EXCEED 1/2".
5. SHOT PINS DRIVEN INTO CONCRETE BASE MATERIAL SHALL MAINTAIN A MINIMUM EDGE DISTANCE AT ALL CONCRETE ELEMENTS OF 3" AND MINIMUM FASTENER SPACING SHALL BE 4". PINS SHALL HAVE 1 1/4" PENETRATION U.N.O. MINIMUM CONCRETE THICKNESS SHALL BE 3 TIMES THE PENETRATION DEPTH. CONCRETE SHALL ATTAIN FULL DESIGN STRENGTH PRIOR TO INSTALLING SHOT PINS.
6. SHOT PINS DRIVEN INTO 3 1/4" MINIMUM LIGHT WEIGHT CONCRETE FILL OVER 3"X 20 GA MINIMUM METAL DECK MAY BE INSTALLED FROM THE TOP OR FROM THE BOTTOM IN EITHER THE HIGH OR LOW FLUTE. PINS INSTALLED FROM THE TOP SHALL BE SPACED AS NOTED ABOVE FOR TYPICAL CONCRETE ELEMENTS. PINS INSTALLED FROM THE BOTTOM IN THE HIGH FLUTES SHALL BE INSTALLED WITHIN 1" OF FLUTE CENTER. PINS INSTALLED FROM THE BOTTOM IN THE LOW FLUTES SHALL BE INSTALLED WITHIN 1" OF THE FLUTE CENTER AND SHALL BE NO CLOSER THAN 1 1/8" TO THE EDGE OF THE LOW FLUTE. PINS INSTALLED FROM THE BOTTOM SHALL BE SPACED NO CLOSER THAN 5 1/2" PARALLEL TO THE FLUTES. PINS SHALL HAVE 1" PENETRATION INTO CONCRETE U.N.O. CONCRETE SHALL ATTAIN FULL DESIGN STRENGTH PRIOR TO INSTALLING SHOT PINS.
7. SHOT PINS MAY BE DRIVEN INTO 8" NOMINAL MINIMUM THICKNESS FULLY GROUTED NORMAL-WEIGHT CMU WITH TYPE S MORTAR AND MINIMUM F'M = 1500 PSI AT TIME OF INSTALLATION. SHOT PINS MAY BE INSTALLED INTO THE FACE SHELLS, HORIZONTAL MORTAR JOINTS OR VERTICALLY CENTERED IN THE THE TOP OF GROUTED CELLS. SHOT PINS SHALL NOT BE INSTALLED IN VERTICAL MORTAR JOINTS OR WITHIN 1" OF VERTICAL MORTAR JOINTS. NO MORE THAN ONE SHOT PIN MAY OCCUR IN AN INDIVIDUAL MASONRY UNIT CELL AND MUST BE INSTALLED A MINIMUM OF 4" FROM THE EDGE OF THE WALL. SHOT PINS IN MORTAR JOINTS MUST BE A MINIMUM OF 8" FROM THE END OF THE WALL AND SHALL HAVE A MINIMUM SPACING OF 8".
8. SHOT PIN INSTALLERS SHALL BE CERTIFIED BY HILTI AND HAVE A CURRENT HILTI ISSUED OPERATORS LICENSE. SHOT PIN INSTALLATION SHALL MEET ALL OSHA REQUIREMENTS.

COLD FORMED METAL FRAMING

540SN001-1

1. GALVANIZED SHEET STEEL SHALL CONFORM TO ASTM A653, STRUCTURAL QUALITY, WITH A MINIMUM YIELD STRENGTH OF 33 KSI FOR 43 MILS (18 GA) AND THINNER AND ASTM A653, STRUCTURAL QUALITY, WITH A MINIMUM YIELD STRENGTH OF 50 KSI FOR 54 MILS (16 GA) AND THICKER. HOT-ROLLED CARBON SHEET AND STRIP STEEL USED IN THE FABRICATION OF COLD-FORMED MEMBERS SHALL CONFORM TO ASTM A1011 WITH A RUST INHIBITIVE COATING.
2. METAL STUDS AND JOISTS SHALL BE OF SIZE AND THICKNESS SHOWN ON DRAWINGS WITH THE MINIMUM EFFECTIVE SECTION PROPERTIES SHOWN IN THE TABLE(S).
3. MINIMUM THICKNESS SHOWN IN TABLE FOR THE THICKNESS SPECIFIED REPRESENTS 95% OF DESIGN THICKNESS PER 2007 AISI-NAS W/ 2004 SUPPLEMENT.
4. METAL FRAMING SHALL BE PER ICC-ES NO. 4943P. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AGENCY APPROVAL FOR ANY SUBSTITUTIONS.
5. WELDING SHALL BE IN ACCORDANCE WITH AWS D1.3 "STRUCTURAL WELDING CODE-SHEET STEEL". WELDERS SHALL BE AWS CERTIFIED. WELDING RODS: E60XX SERIES. ALL FIELD WELDING SHALL HAVE SPECIAL INSPECTION.
6. TYPICAL METAL TRACK SHALL BE SAME GAUGE AS STUDS WHICH IT SUPPORTS, UNPUNCHED, WITH A FLANGE WIDTH OF 1 1/4 INCHES AND A DEPTH EQUAL TO THE NOMINAL STUD PLUS 2 TIMES THE TRACK THICKNESS PLUS THE RADIUS. NESTED TRACKS SHALL BE FABRICATED TO FILL THE OUTSIDE OF A TYPICAL METAL TRACK. DEEP LEG TRACKS SHALL HAVE A MINIMUM FLANGE WIDTH OF 2 INCHES. USE SLOTTED SLIP TRACKS WHERE SPECIFIED. SEE SECTIONS AND TYPICAL METAL STUD DETAILS.
7. METAL STUDS SHALL NOT HAVE PUNCH-OUTS CLOSER THAN 10" FROM THE END OF THE STUD OR AT INTERMEDIATE LATERAL BEARING POINTS OF STUDS.
8. SHEET METAL SCREWS SHALL BE #10 TYP UNO.

COLD FORMED METAL FRAMING SECTION PROPERTIES - SSMA C STUDS & JOISTS - S162 SECTIONS [2,3]

540SN002-1

GAUGE/MIL	20/33		18/43		16/54		14/68		S STUDS & JOISTS
DESIGNATION	S162-33		S162-43		S162-54		S162-68		
MIN THICKNESS	0.0329		0.0428		0.0538		0.0677		1 5/8" TYP; "D"; 1/2" TYP
DEPTH "D"	IX	SX	IX	SX	IX	SX	IX	SX	
2 1/2"	0.235	0.180	0.302	0.240	0.370	0.288	0.450	0.357	
3 5/8"	0.551	0.292	0.710	0.389	0.873	0.468	1.069	0.584	
4"	0.692	0.332	0.892	0.443	1.098	0.533	1.346	0.666	
6"	1.793	0.577	2.316	0.767	2.860	0.927	3.525	1.164	
8"	3.582	0.757	4.633	1.158	5.736	1.397	7.089	1.757	
10"	-	-	8.025	1.414	9.950	1.712	12.325	2.465	
12"	-	-	-	-	15.730	2.024	19.518	2.953	

1. FOR COMPLETE SECTION DESIGNATIONS IN ACCORDANCE WITH SSMA STANDARDS, ADD MEMBER DEPTH TO FRONT OF INDICATED DESIGNATION. EXAMPLE: FOR 3 5/8" MEMBER WITH GAUGE/MIL OF 18/43, THE FULL DESIGNATION IS 362S162-43.
2. SECTION PROPERTIES SHOWN ARE EFFECTIVE PROPERTIES CONFORMING TO AISI A7.2 PER SSMA STANDARDS FOR MATERIAL STRENGTH NOTED BELOW.
3. PROVIDE 33 KSI MIN MATERIAL FOR 18/43 & LISTED SECTIONS, PROVIDE 50 KSI MATERIAL FOR 16/54 & HEAVIER SECTIONS.

STRUCTURAL OBSERVATION

100SN017-1

1. IN ACCORDANCE WITH SECTION 1710 OF THE 2010 CBC, THIS PROJECT IS REQUIRED TO HAVE STRUCTURAL OBSERVATION. STRUCTURAL OBSERVATION MEANS THE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM, FOR GENERAL CONFORMANCE TO THE APPROVED PLANS AND SPECIFICATIONS, AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL SYSTEM. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR THE INSPECTIONS REQUIRED BY CBC SECTIONS 110 OR 1704. THE FOLLOWING PROJECT MILESTONES SHALL BE OBSERVED:
   A. FOUNDATIONS (PRIOR TO CONCRETE PLACEMENT)
   B. WOOD SHEATHED SHEAR WALLS, FLOORS, AND ROOFS (PRIOR TO COVERING)
   C. CMU SHEAR WALLS (PRIOR TO GROUTING)
   D. STEEL ERECTION PRIOR TO COMPLETION OF FIRST ELEVATED LEVEL (FLOOR OR ROOF)
   E. METAL DECK AND CONCRETE OVER DECK REINFORCING (PRIOR TO CONCRETE PLACEMENT)
2. THE OWNER SHALL EMPLOY THE ARCHITECT OR STRUCTURAL ENGINEER OF RECORD, OR ANOTHER REGISTERED PROFESSIONAL ENGINEER OR ARCHITECT DESIGNATED TO PERFORM STRUCTURAL OBSERVATION. OBSERVED DEFICIENCIES SHALL BE REPORTED IN WRITING TO THE OWNER'S REPRESENTATIVE, SPECIAL INSPECTOR, CONTRACTOR AND BUILDING OFFICIAL. THE STRUCTURAL OBSERVER SHALL SUBMIT TO THE BUILDING OFFICIAL A STATEMENT THAT THE FIELD VISITS HAVE OCCURRED AND IDENTIFY ANY REPORTED DEFICIENCIES THAT, TO THE BEST OF THE STRUCTURAL OBSERVER'S KNOWLEDGE, HAVE NOT BEEN RESOLVED.
3. NOTIFY THE STRUCTURAL ENGINEER A MINIMUM OF 48 HOURS IN ADVANCE OF PROJECT MILESTONES SO THAT OBSERVATIONS MAY BE SCHEDULED.

FINAL BID DOCUMENTS

Revisions: | Date

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Drawing Title: GENERAL NOTES

Approved: Project Director

Project Title: VA PALO ALTO BLDG 6 ADMINISTRATION EXPANSION

Location: VAPAHCS - PALO ALTO, CA

Date: 04.17.2014 | Checked: JDH | Drawn: Author

Project Number: 640-13-121P

Building Number: 6

Drawing Number: S1.01A

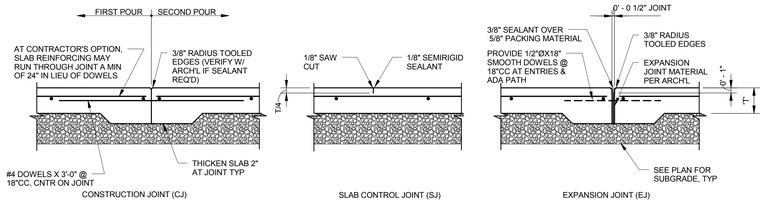
Dwg. of

Office of Construction and Facilities Management

Department of Veterans Affairs

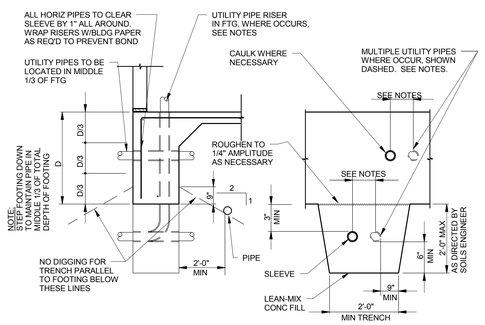
TYPICAL DETAILS

APPLICABLE TO ALL DRAWINGS UNLESS NOTED OR SHOWN OTHERWISE



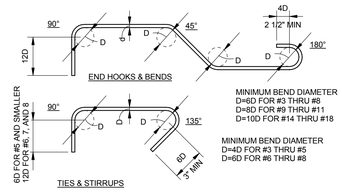
NOTE:
1. CONSTRUCTION JOINTS AND CONTROL JOINTS SHALL DIVIDE SLAB INTO AREAS NOT EXCEEDING 225 SQ FT WITHOUT REENTRANT CORNERS AND WITH LENGTH TO WIDTH RATIOS NOT EXCEEDING 1 1/2 TO 1. JOINT SPACING SHALL NOT EXCEED 15 FEET IN EITHER DIRECTION.
2. CONTRACTOR SHALL SUBMIT LAYOUT PLAN SHOWING PROPOSED CONTROL AND CONSTRUCTION JOINT LOCATIONS TO ARCHITECT & STRUCTURAL ENGINEER FOR REVIEW & APPROVAL.
3. SEMIRIGID SEALANT TO BE EUCLID EUCO #700 OR EQUAL.

1 S1.02A — SLAB ON GRADE JOINTS
310SD001-12



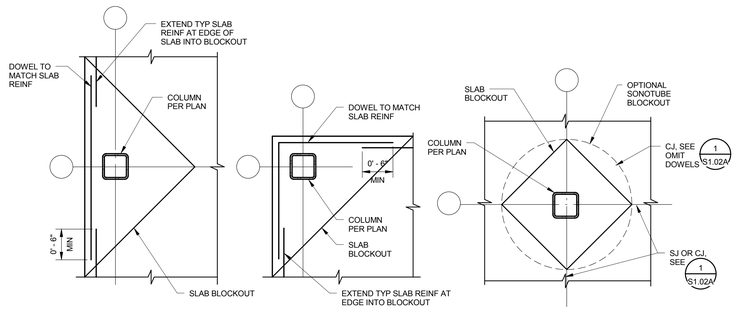
NOTES:
1. REINFORCING SHALL NOT BE INTERRUPTED, CUT OR DISPLACED BY PLACEMENT OF UTILITY PIPE.
2. LEAN MIX CONCRETE FILL TO BE PLACED BEFORE FTG IS CAST (MONO-POUR FTG CONC OPTIONAL). MAKE SAME WIDTH AS FTG AND FULL WIDTH OF PIPE TRENCH.
3. STEP FTG IF PIPE OCCURS IN LOWER THIRD OF ORIGINAL FOOTING DEPTH.
4. NO PIPES SHALL BE PLACED BELOW SPREAD FTGS OR WITHIN 2 TO 1 BEARING ZONE AROUND SPREAD FOOTING.
5. IF PIPE IS IN PLACE PRIOR TO CASTING CONCRETE, WRAP PIPE W/ 1" STYROFOAM INSULATION IN LIEU OF SLEEVE.
6. UTILITY PIPES ARE NOT ALLOWED PARALLEL IN FOOTING.
7. MULTIPLE UTILITY PIPES (TWO OR MORE) MAY BE INSTALLED AS SHOWN @ LEFT, PROVIDED THEY ARE SPACED A MINIMUM OF 4 PIPE/CONDUIT DIAMETERS ON CENTER WITH A MINIMUM OF 3" OF CONCRETE BETWEEN. PIPE DIAMETER INDICATED IS THE ROUGH HOLE SIZE THRU FOOTING.
8. UTILITY PIPES RISERS MAY OCCUR IN CONTINUOUS WALL FOOTINGS PROVIDED THEY ARE NO LARGER THAN (FOOTING WIDTH/6) AND OCCUR W/IN THE MIDDLE 1/2 OF THE FOOTING WIDTH. MULTIPLE RISERS MAY OCCUR IF SPACED AS NOTED @ LEFT.
9. UTILITY PIPES PERPENDICULAR TO FOOTINGS AND MORE THAN 2'-0" BELOW BOTTOM OF FOOTINGS DO NOT REQUIRE LEAN-MIX CONCRETE ENCASEMENT SUBJECT TO ACCEPTANCE OF THE SOILS ENGINEER.
10. CONDITIONS NOT CONFORMING TO THE PARAMETERS NOTED ABOVE SHALL BE REVIEWED ON A CASE-BY-CASE BASIS.

5 S1.02A — CONCRETE FOOTINGS AT UTILITY PIPES
200SD003-32



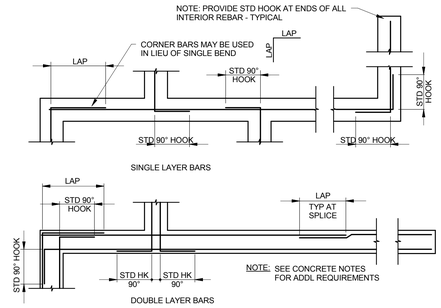
NOTE: ALL HOOKS SHALL BE 90° OR 180° STANDARD HOOKS UNLESS OTHERWISE SHOWN OR NOTED.

6 S1.02A — STANDARD REBAR HOOKS AND BENDS
300SD001-12

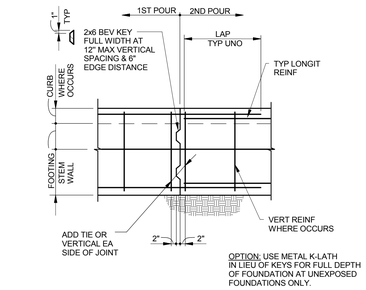


NOTE:
1. SLAB BLOCKOUT SHALL NOT EXTEND BEYOND FOOTING.
2. AT EXPOSED CONCRETE CONDITIONS, COORDINATE BLOCKOUT SHAPE AND SIZE W/ ARCH'L DWGS.

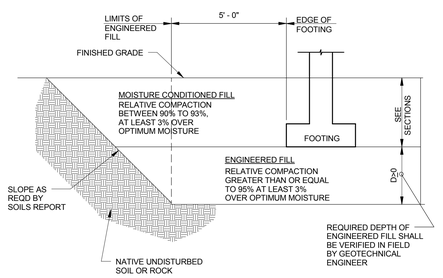
3 S1.02A — SLAB BLOCKOUT
310SD002-12



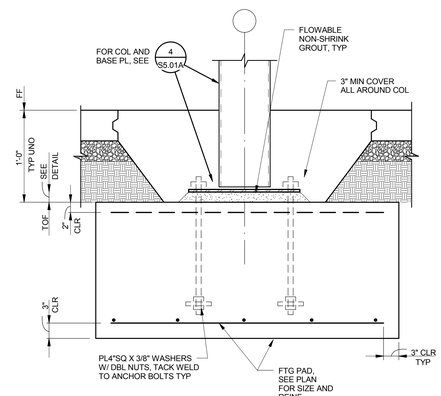
4 S1.02A — CORNER REINFORCING AT CONCRETE FTGS
200SD011-32



12 S1.02A — TYPICAL FOUNDATION CONCTRUCTION JOINT
200SD012-24



14 S1.02A — ENGINEERED FILL SECTION
200SD001-32



15 S1.02A — DETAIL
210SD012-12

FINAL BID DOCUMENTS

Revisions:	Date

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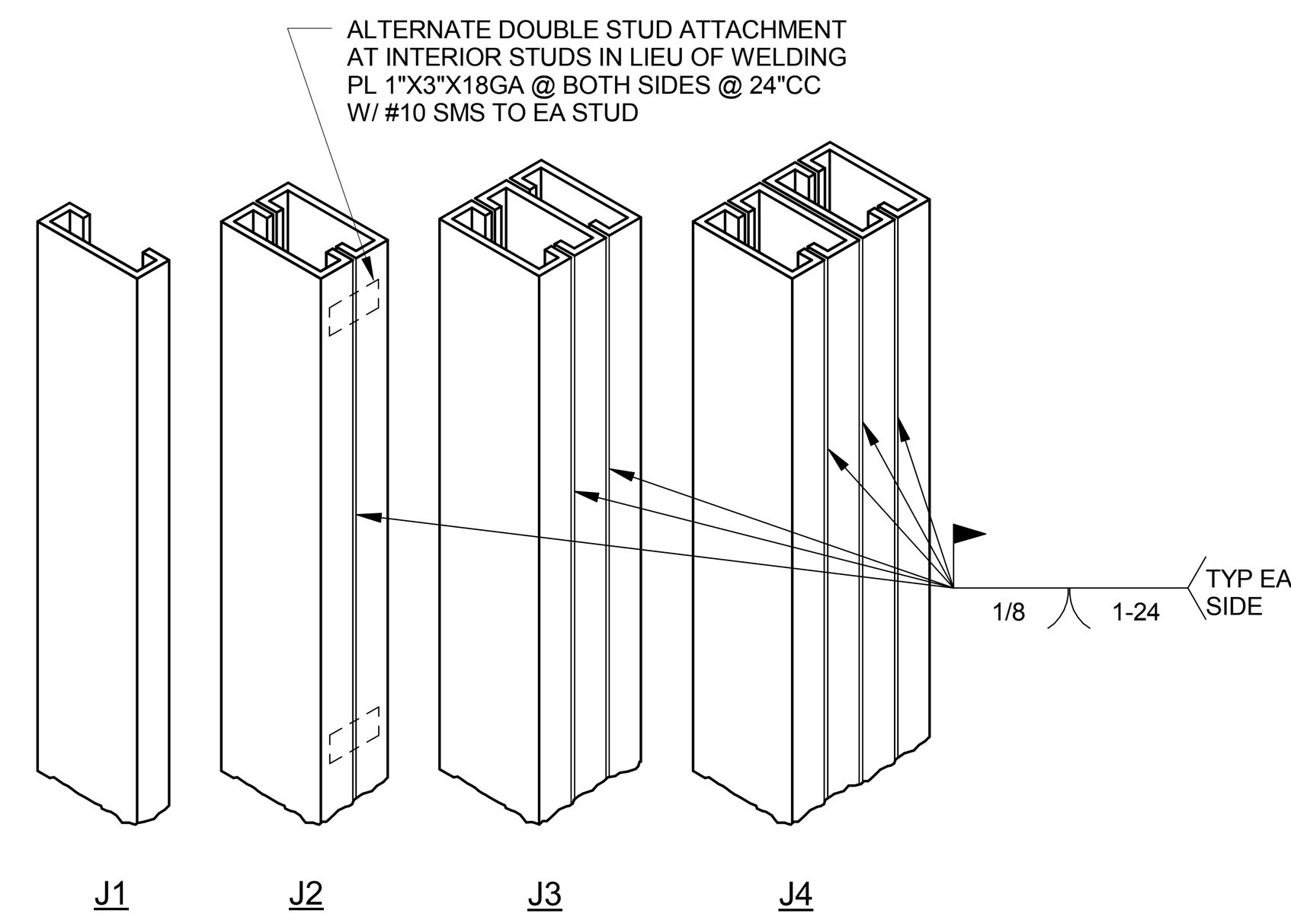
Drawing Title	**TYPICAL DETAILS**
Approved: Project Director	
Project Title	**VA PALO ALTO BLDG 6 ADMINISTRATION EXPANSION**
Location	VAPAHCS - PALO ALTO, CA
Date	**04.17.2014**
Checked	**JDH**
Drawn	**Author**
Project Number	**640-13-121P**
Building Number	**6**
Drawing Number	**S1.02A**
Dwg. of	

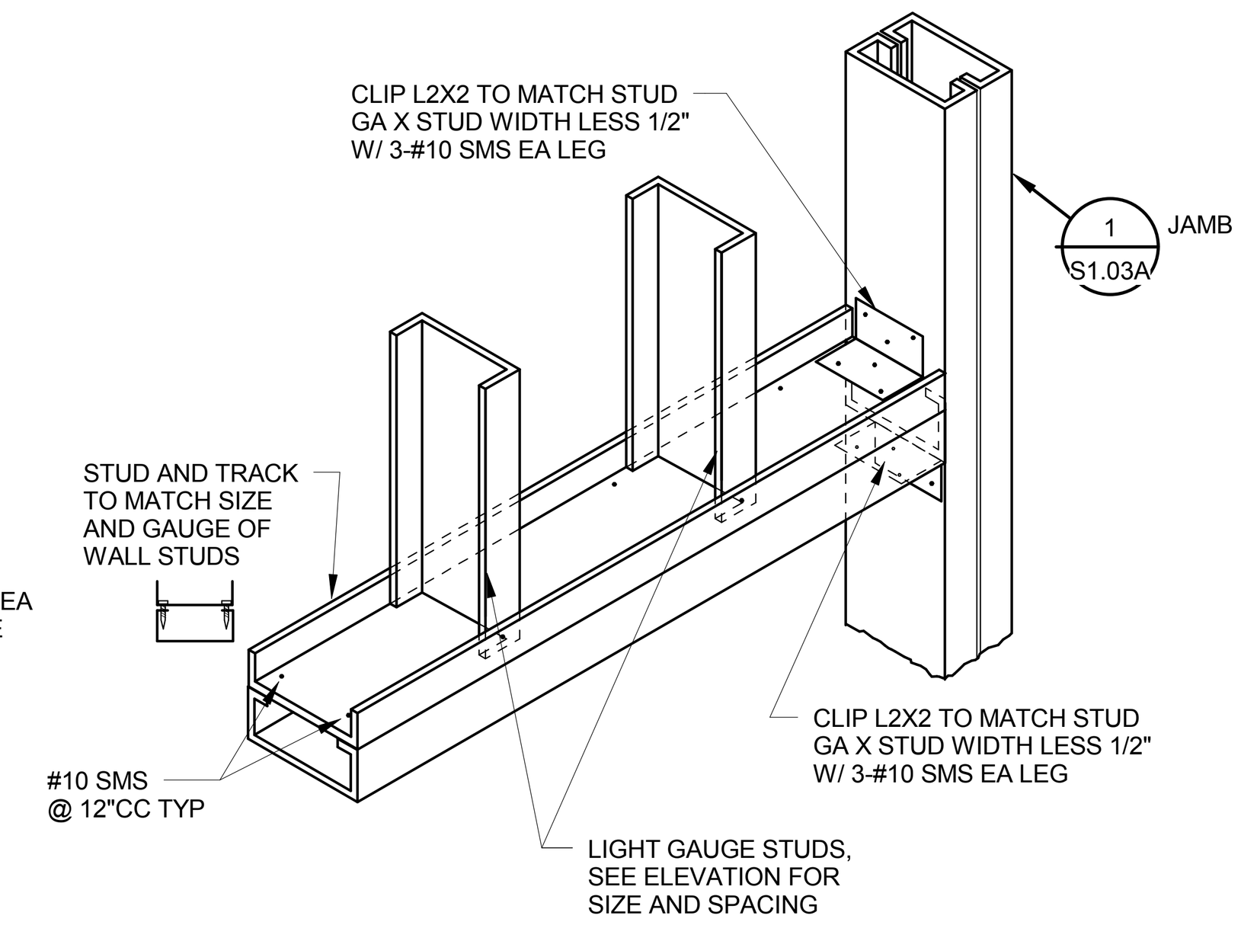
Office of Construction and Facilities Management

Department of Veterans Affairs

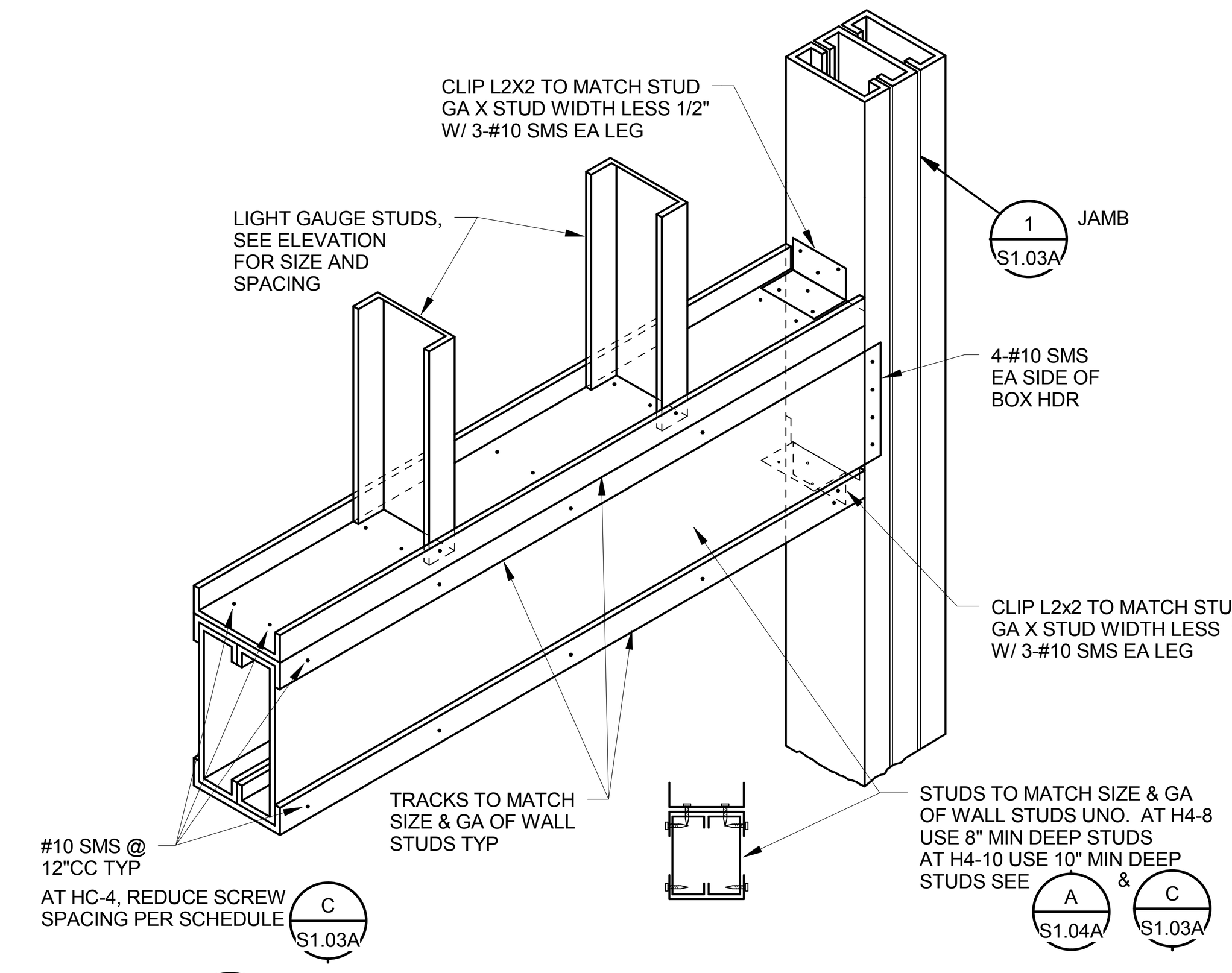
VA FORM 08-6231



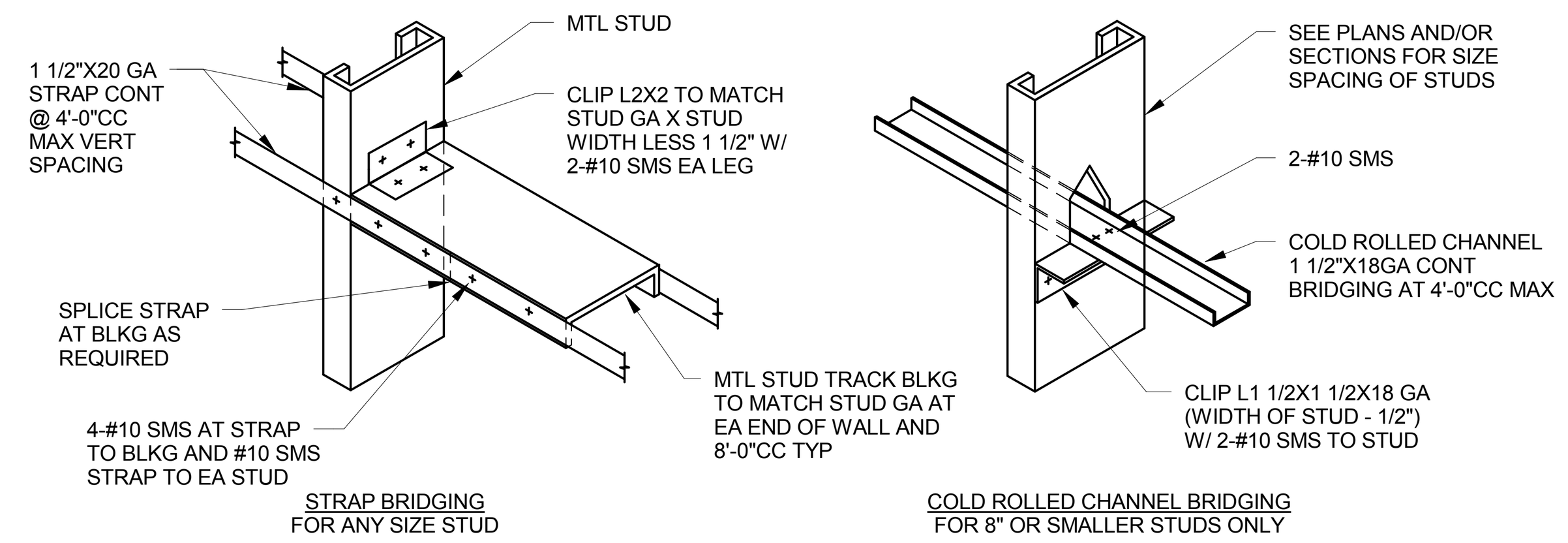
1 S1.03A **JAMB DETAIL**
540SD001-12



2 S1.03A **H2 HEADER DETAIL**
540SD002-12

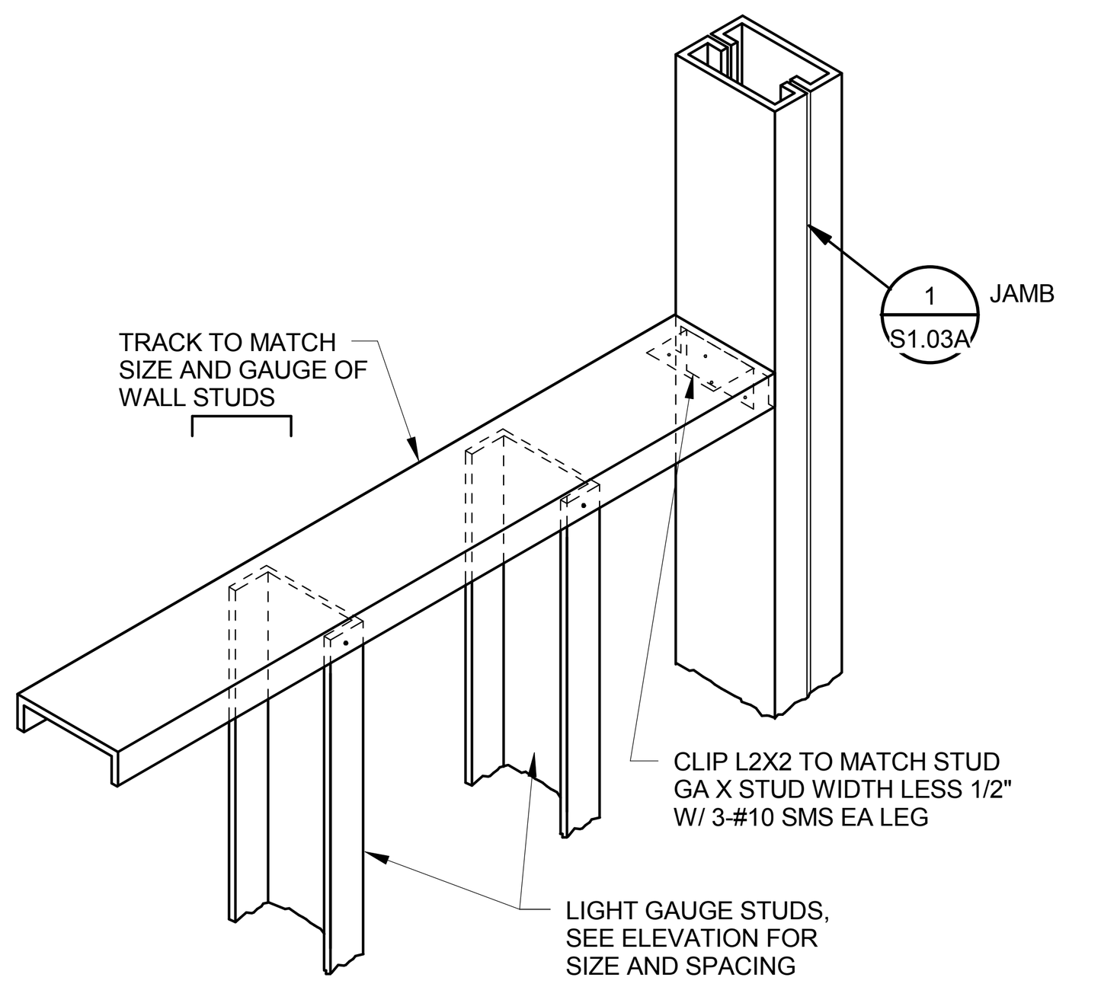


3 S1.03A **H4/HC-4 HEADER DETAIL**
540SD003-12

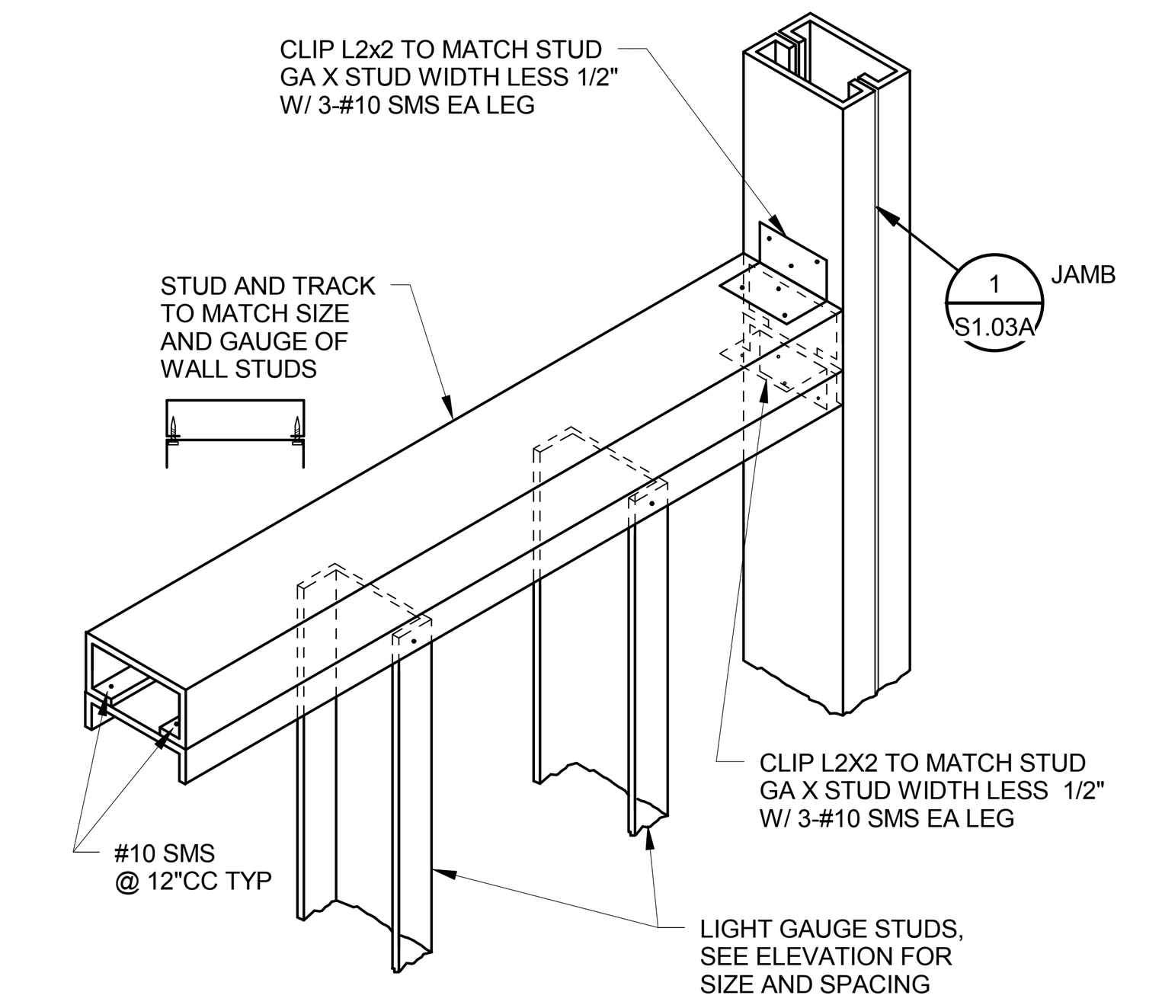


NOTE:
1. BRIDGING FOR 8" AND SMALLER STUDS MAY BE CONSTRUCTED OF COLD ROLLED CHANNEL OR STRAPS AT CONTRACTOR'S OPTION UNLESS NOTED OTHERWISE.
2. WHERE FULL HEIGHT SHEATHING OR GYP BOARD OCCURS ON BOTH SIDES OF METAL STUD FRAMING, THE BRIDGING MAY BE OMITTED.
3. AT COND WHERE STRAP BRIDGING IS USED & WHERE WALL SHEATHING OR GYP BOARD OCCURS ON ONE SIDE OF WALL ONLY, STRAP MAY BE OMITTED ON SIDE OF WALL WHERE SHEATHING OR GYP OCCURS.

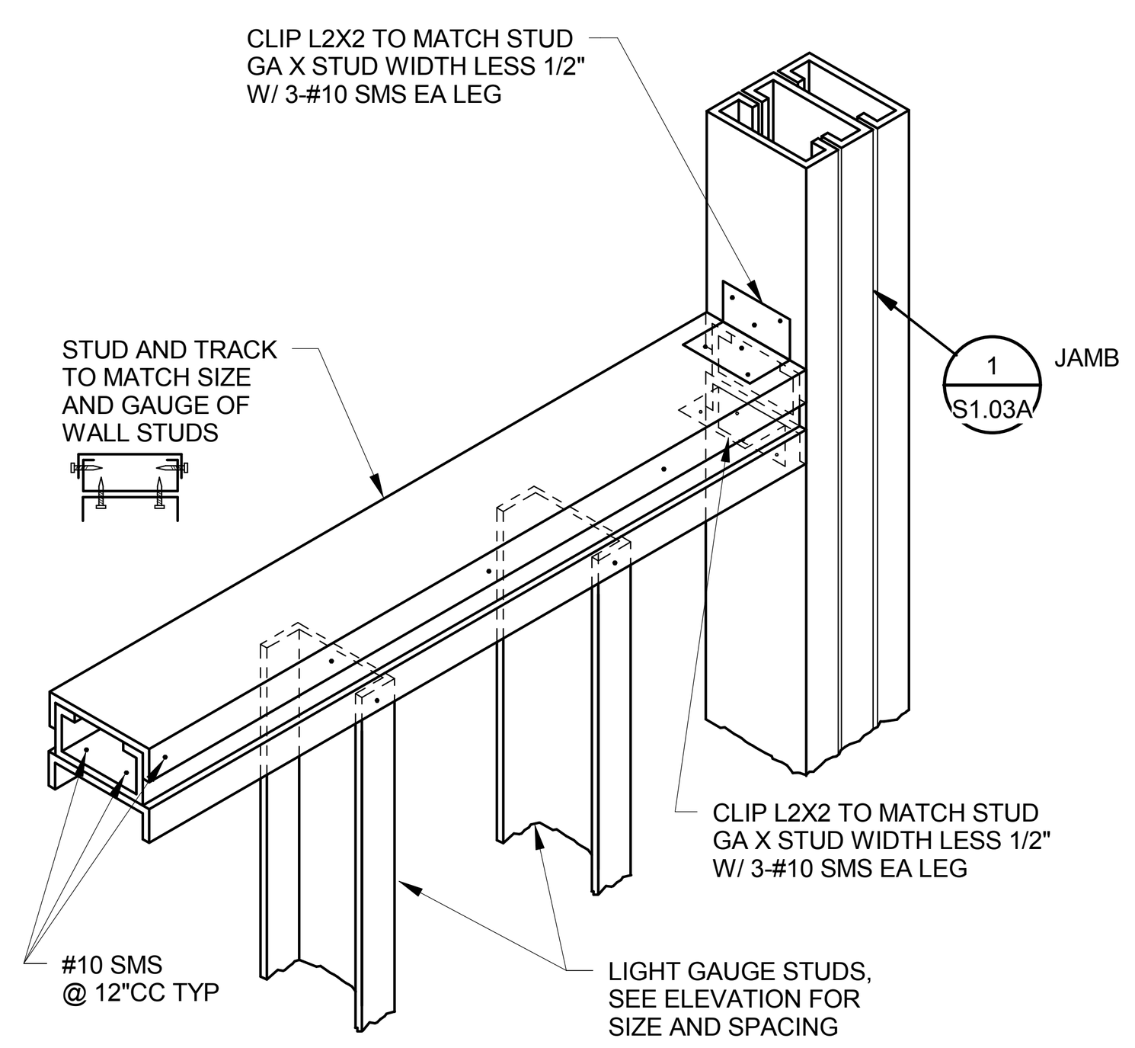
4 S1.03A **TYPICAL STUD BRIDGING**
540SD008-12



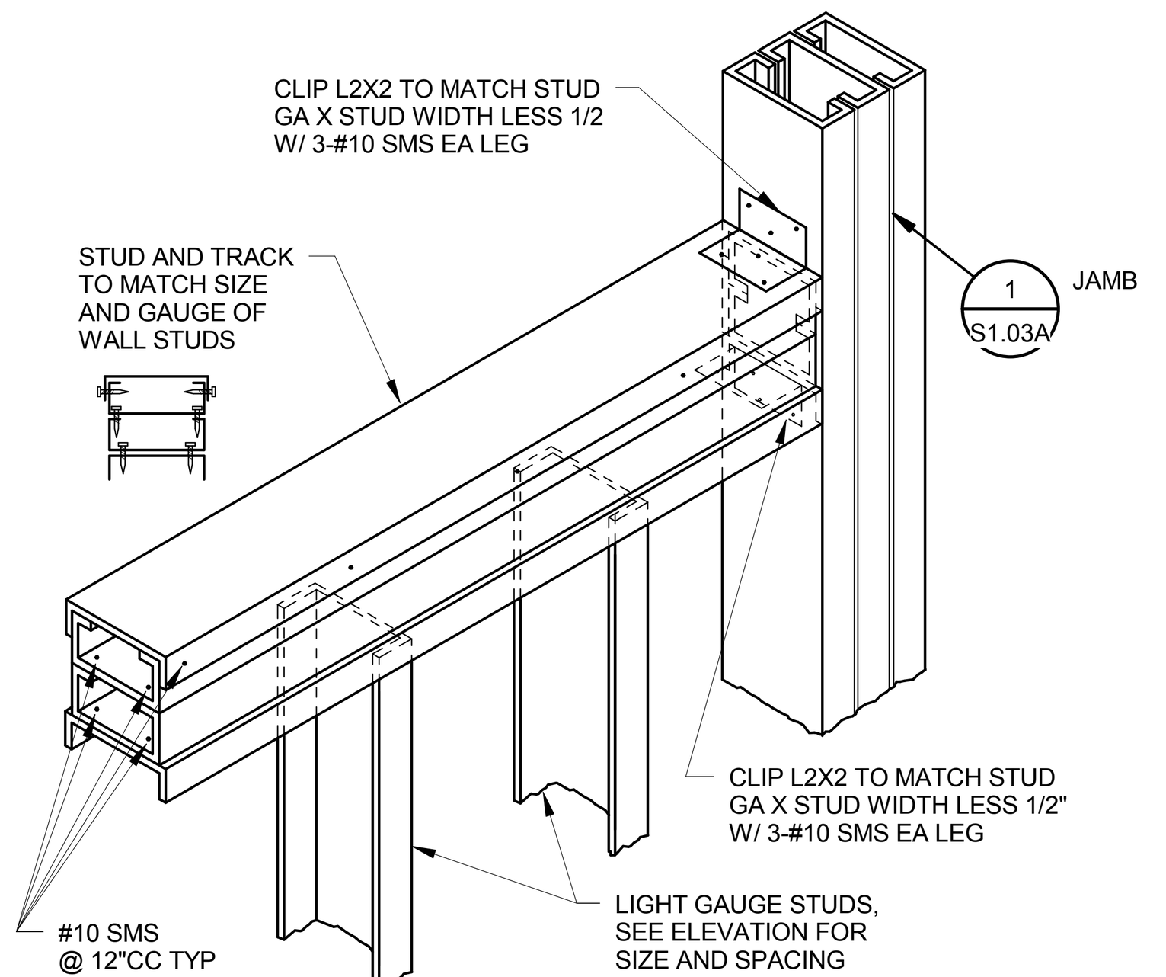
5 S1.03A **S1 SILL DETAIL**
540SD005-12



6 S1.03A **S2 SILL DETAIL**
540SD006-12



7 S1.03A **S3 SILL DETAIL**
540SD007-12



8 S1.03A **S4 SILL DETAIL**
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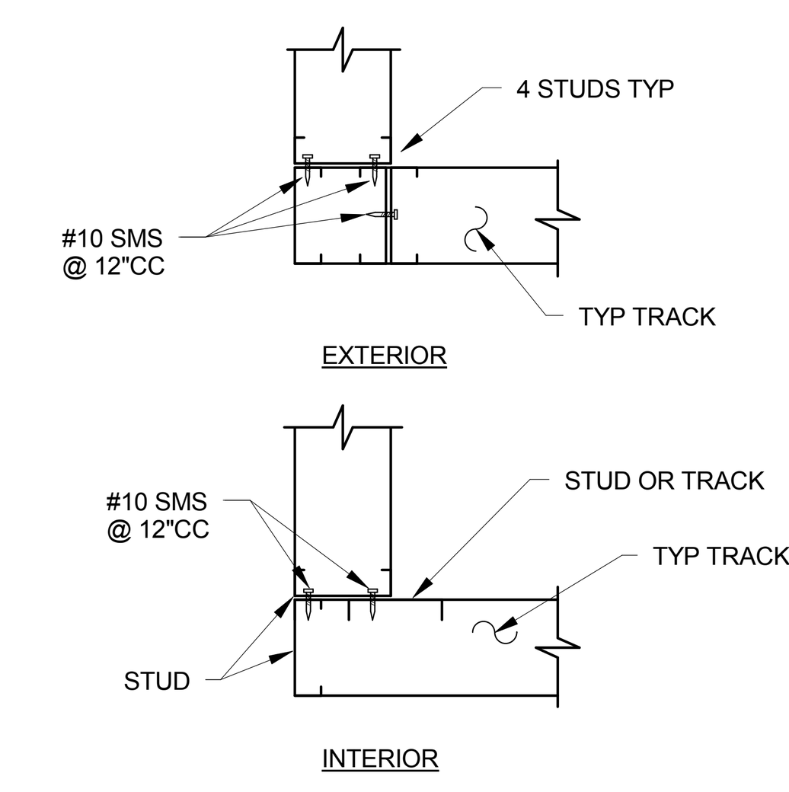
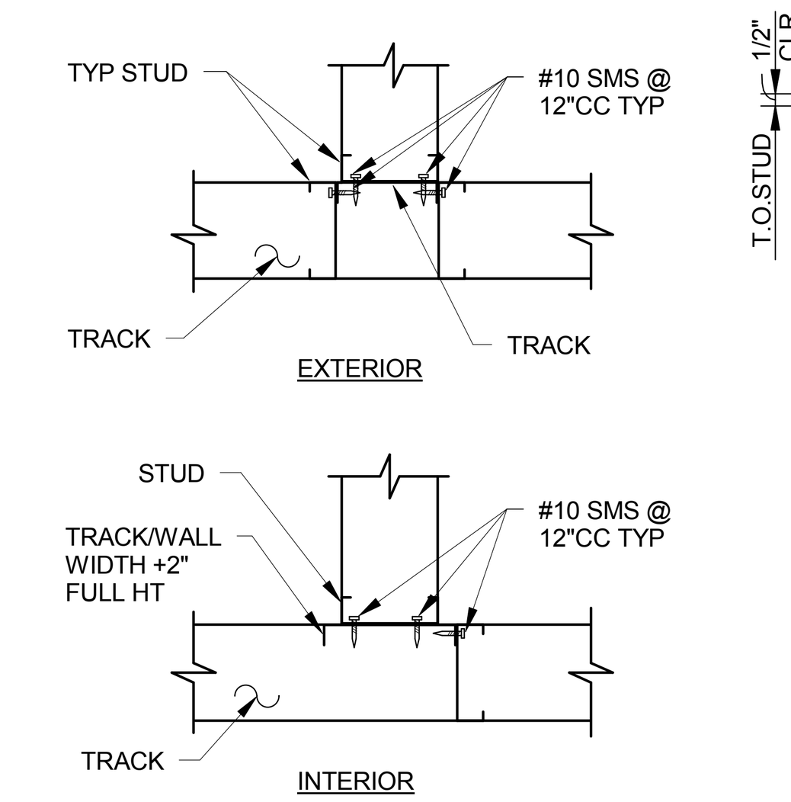


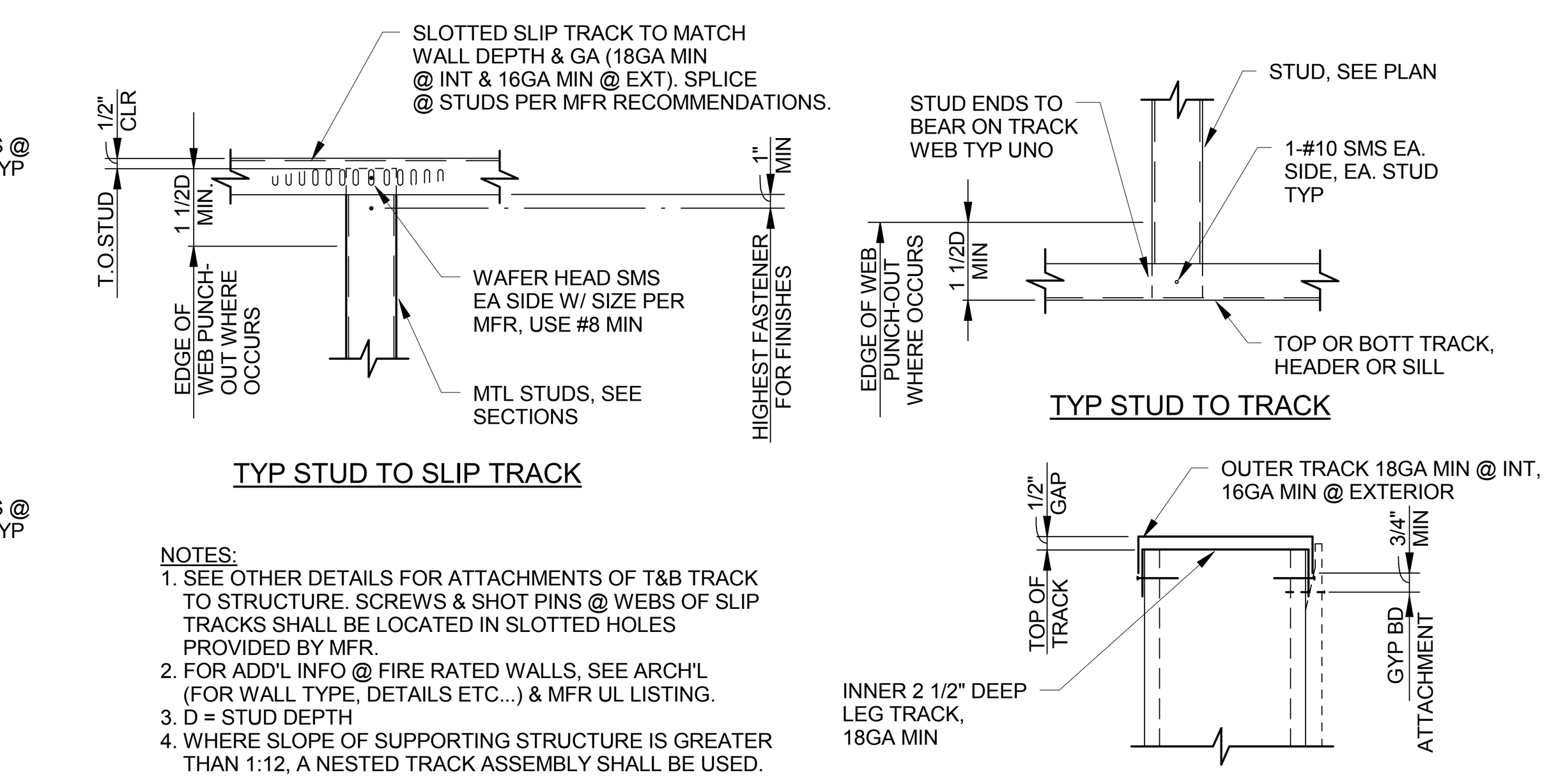
NOTE: SEE PLANS AND SECTIONS FOR STUD AND TRACK SIZES

9 S1.03A **TYPICAL WALL CORNER**
540SD010-12



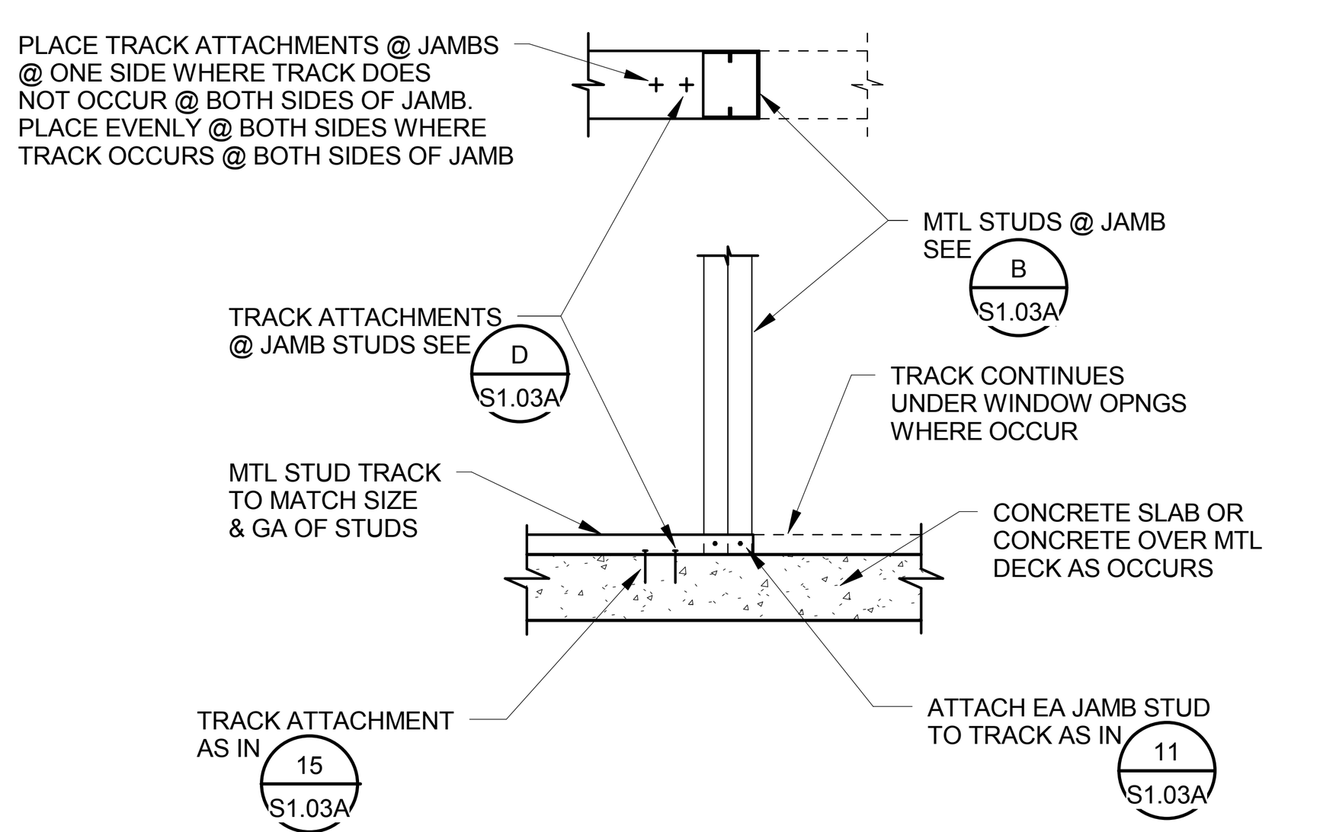
NOTE: SEE PLANS AND SECTIONS FOR STUD AND TRACK SIZES

10 S1.03A **TYPICAL TEE INTERSECTION**
540SD011-12

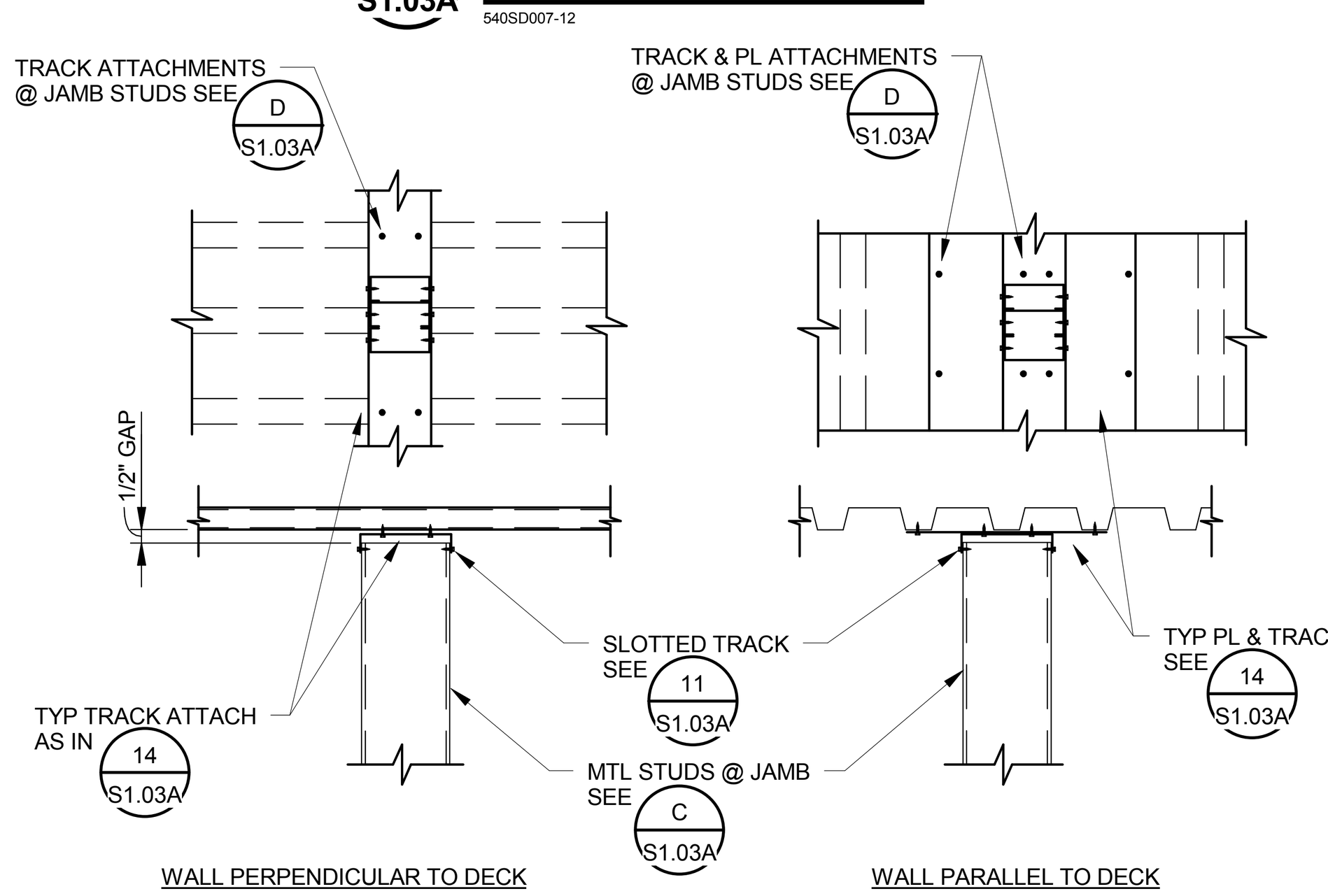


NOTES:
1. SEE OTHER DETAILS FOR ATTACHMENTS OF T&B TRACK TO STRUCTURE. SCREWS & SHOT PINS @ WEBS OF SLIP TRACKS SHALL BE LOCATED IN SLOTTED HOLES PROVIDED BY MFR.
2. FOR ADD'L INFO @ FIRE RATED WALLS, SEE ARCH'L (FOR WALL TYPE, DETAILS ETC...) & MFR UL LISTING.
3. D = STUD DEPTH
4. WHERE SLOPE OF SUPPORTING STRUCTURE IS GREATER THAN 1:12, A NESTED TRACK ASSEMBLY SHALL BE USED.

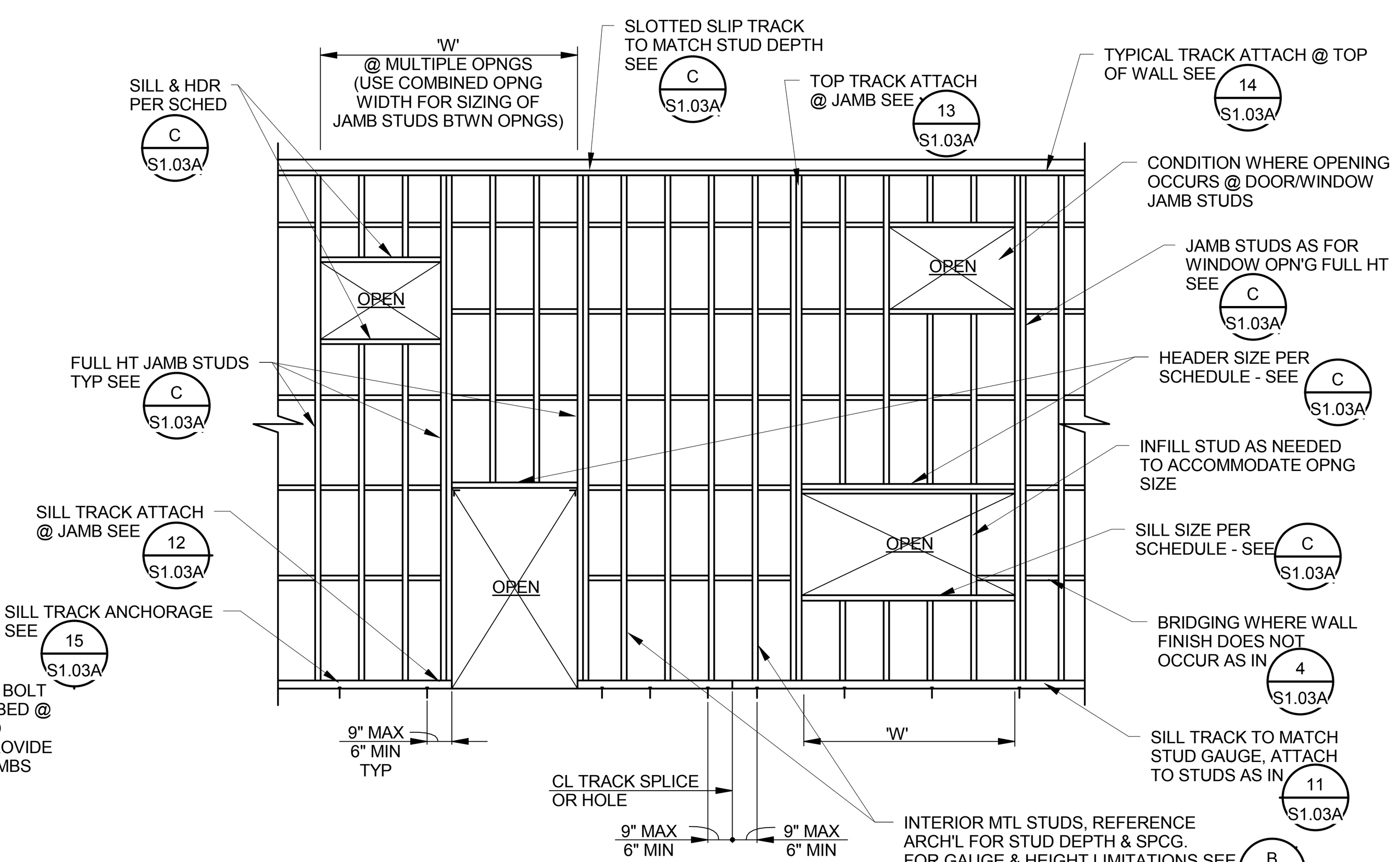
11 S1.03A **TYPICAL STUD TO TRACK CONNECTION**
540SD014-12



12 S1.03A **JAMB STUDS @ SILL TRACK**
542SD002-12



13 S1.03A **JAMB STUDS @ TOP TRACK**
542SD003-12



A S1.03A **FULL HEIGHT INTERIOR METAL STUD WALL ELEVATION**
540SD011-46

INTERIOR METAL STUD PARTITIONS

542SD037-1

B S1.03A

MAXIMUM HEIGHT FOR METAL STUDS WITH
SDS = 1.5, IP = 1.0
DEFLECTION LIMIT L/120 - NON BEARING WITH CABINET OR EQUIPMENT

16"CC SPACING

DEPTH	GAGE	DESIGNATION 3	HEIGHT
3 5/8"	20	362S162-33	14'-10"
3 5/8"	18	362S162-43	18'-6"
3 5/8"	16	362S162-54	20'-10"
3 5/8"	14	362S162-68	22'-7"
4"	20	400S162-33	16'-8"
4"	18	400S162-43	20'-11"
4"	16	400S162-54	22'-7"
4"	14	400S162-68	24'-7"
6"	20	600S162-33	25'-7"
6"	18	600S162-43	28'-8"
6"	16	600S162-54	32'-8"
6"	14	600S162-68	35'-10"
8"	20	800S162-33	29'-2"
8"	18	800S162-43	36'-11"
8"	16	800S162-54	42'-1"
8"	14	800S162-68	46'-10"

1. STUDS SHALL BE DEPTH AS INDICATED ON ARCH DRAWINGS AND GAUGE AS DETERMINED BY HEIGHT OF WALL AND THE SCHEDULE ABOVE.
2. SEE ELEVATIONS A S1.03A FOR TYPICAL WALL FRAMING CONDITIONS.
3. DESIGNATION CONFORMS TO STEEL STUD MANUFACTURERS ASSOCIATION STANDARDS.
5. THE MAX. HTS NOTED IN THIS TABLE ARE BASED UPON THE USE OF SEISMIC COMPONENT LOAD FP OR A LIVE LOAD OF 5PSF, WHICHEVER GOVERNS.

INTERIOR WALL OPENING FRAMING SCHEDULE

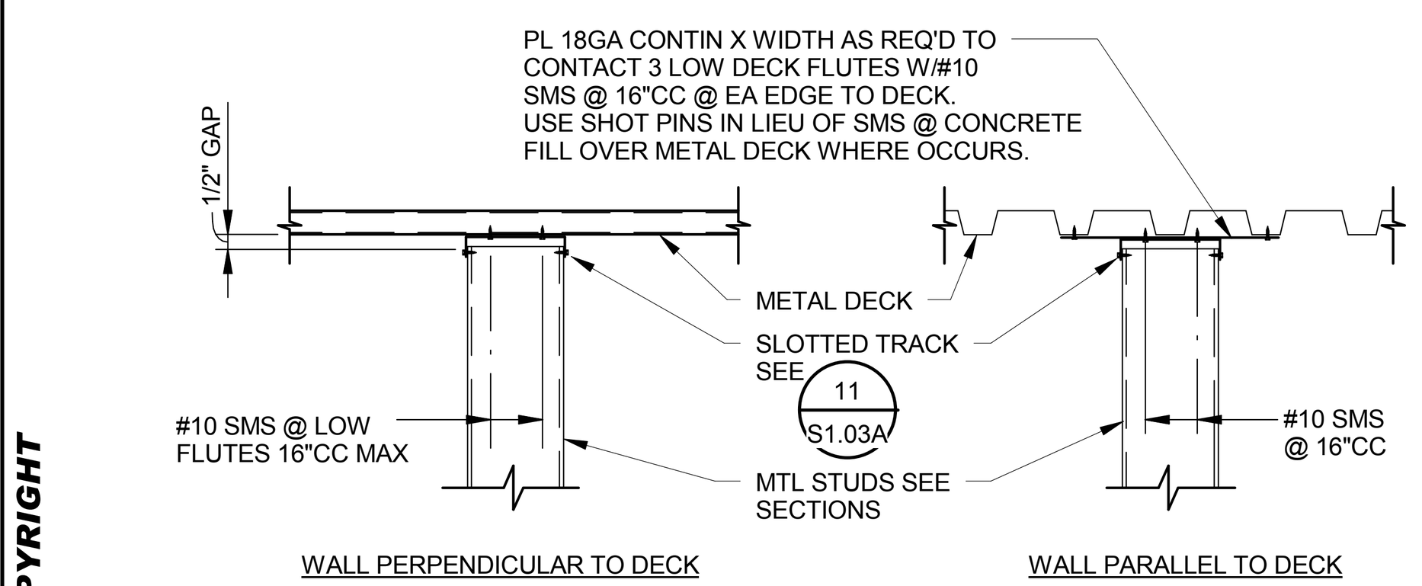
542SD014-1

C S1.03A

DEFLECTION LIMIT = L/120

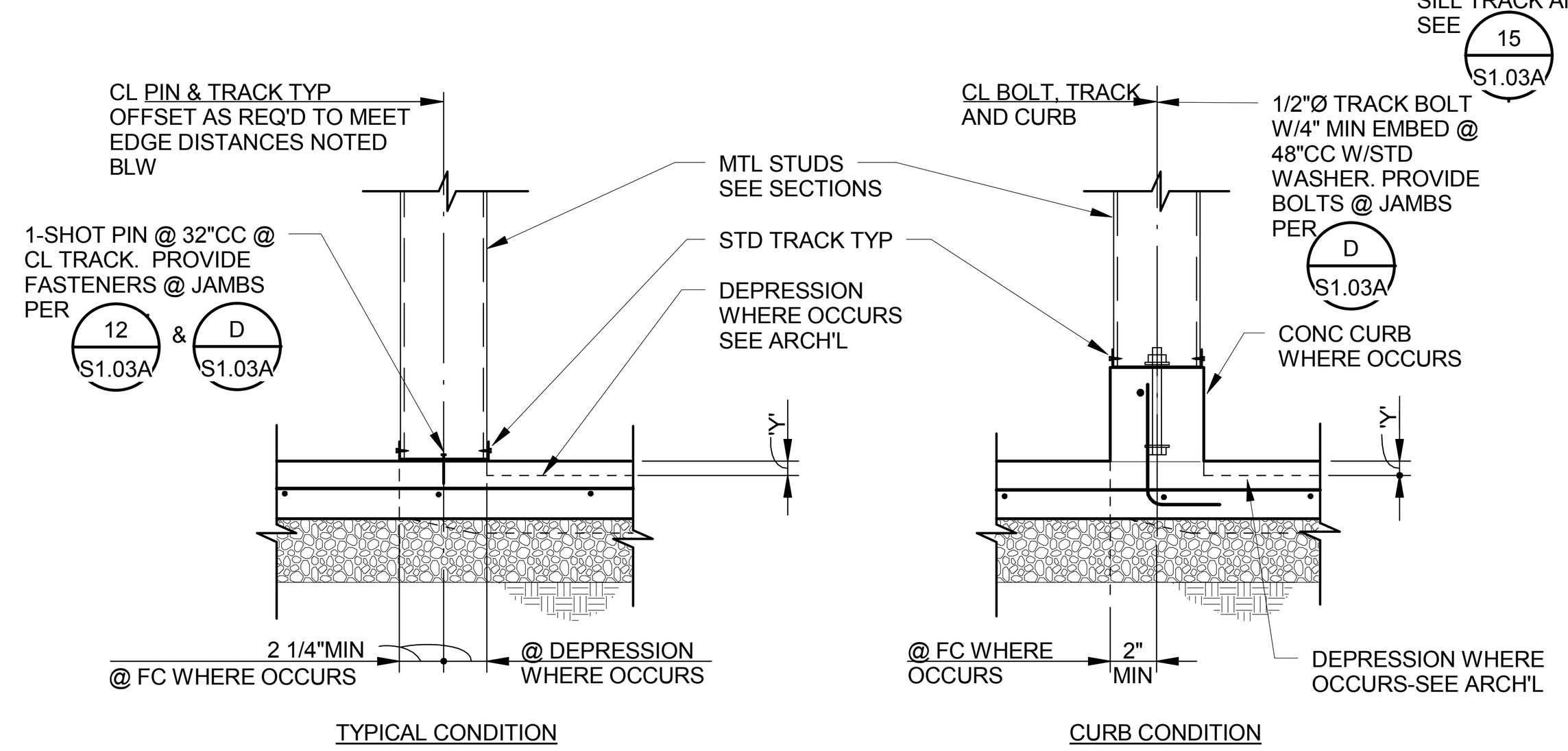
'W' WIDTH MAX 15	JAMBS	HEADER	SILL	HC4-8 SCREW SPCG	
				3-5/8" & 4" WALLS	6" & 8" WALLS
4'-0"	J1 1,2,3	H2	S1		
8'-0"	J2	H4	S1 9		
12'-0"	J3	HC4-8 4.5,12	S2	8"CC	4"CC
16'-0"	J4	HC4-8 6,7,8,12	S4 10	8"CC	4"CC

1. USE J2 MINIMUM AT DOOR OPENINGS
2. USE J2 AT 4'-0" OPNGS IN 20GA WALLS
3. USE J2 AT 4'-0" OPNGS IN 8"X18GA WALLS
4. H4-6 MAY BE USED AT 12'-0" OPNGS IN 16GA AND 14GA WALLS W/ THE EXCEPTION OF 8" WALLS
5. USE 18GA MIN. HEADERS AT 12'-0" OPNGS IN 8" WALLS
6. USE 16GA MIN. HEADERS AT 16'-0" OPNGS IN 3-5/8" & 4" WALLS
7. USE 14GA MIN. HEADERS AT 16'-0" OPNGS IN 6" & 8" WALLS UNO
8. USE HC4-10 HEADERS AT 16'-0" OPNGS IN 8"X14GA WALLS
9. USE S2 SILLS AT 8'-0" OPNGS IN 3-5/8x20GA, 4"X20GA, AND 6"X20GA WALLS.
10. S2 MAY BE USED AT 16'-0" OPNGS IN 16GA AND 14GA WALLS W/ THE EXCEPTION OF 3-5/8" WALLS
11. SEE SHEET S1.03 FOR JAMB, HEADER, AND SILL DETAILS
12. "H4-8" INDICATES HEADER TYPE AND DEPTH OF VERTICAL STUD ELEMENTS INSIDE HEADER. "HC4-8" INDICATES COMPOSITE HEADER W/ ADD'L SCREW REQUIREMENTS - SEE SCHEDULE & 3 S1.03A
13. FOR CONNECTION @ BASE OF WALL AT JAMBS SEE 12 S1.03A
14. FOR CONNECTION @ TOP OF WALL AT JAMBS SEE 13 S1.03A
15. 'W' WIDTH IS THE MAX WIDTH OF A SINGLE OPENING OR THE COMBINED WIDTH OF SIDE BY SIDE OPENINGS THAT SHARE A SINGLE JAMB STUD CONFIGURATION.



NOTES:
1. WHERE WALL IS PERPENDICULAR TO DECK AND CONCRETE FILL OVER METAL DECK OCCURS ATTACH TRACK TO DECK W/ 1-SHOT PIN W/ STEEL WASHER @ 24"CC MAX IN LIEU OF SMS.
2. WHERE WALL IS PARALLEL TO DECK & WALL CL IS W/IN 1 1/2" OF CL OF LOW DECK FLUTE, TOP TRACK MAY BE ATTACHED DIRECTLY TO DECK AS IN PERPENDICULAR COND & CONTIN E MAY BE OMITTED.
3. SEE SHOT PIN NOTES FOR SPACING, EDGE DISTANCE & PLACEMENT REQUIREMENTS. AT SMS MAINTAIN 1.5 X DIAMETER MIN SPACING & EDGE DISTANCE.
4. FOR COND @ JAMB STUDS SEE 3 S1.04A

14 S1.03A **SLIP TRACK TO METAL DECK W/O FIREPROOFING**
542SD004-12



NOTE:
WHERE SLAB DEPRESSION OCCURS, VERIFY DEPTH "Y", LOCATION & EXTENT W/ ARCH'L. WHERE "Y" EXCEEDS 2" USE PROVISIONS OF CURB COND.

15 S1.03A **SILL TRACK TO SLAB**
542SD008-12

540SD017-1

D S1.03A **TRACK ATTACHMENT @ JAMB STUDS**

JAMB TYPE	TRACK ATTACHMENT METHOD 1,2		
	SHOT PIN	SMS	1/2"Ø BOLTS
J1	1	1	1
J2	2	2	1
J3	3	3	1
J4	4	4	2

NOTES:
1. SCHEDULE INDICATES TRACK ATTACHMENTS REQUIRED WHERE JAMB STUDS OCCUR. SEE TYPICAL SILL AND TOP TRACK ATTACHMENT DETAILS FOR BASIC ATTACHMENT METHODS (I.E. SHOT PINS, SMS, BOLTS ETC...) & CONDITIONS BEYOND JAMB STUDS.
2. LOCATE ALL REQUIRED ATTACHMENTS AS CLOSE TO JAMB STUDS AS POSSIBLE. MAINTAIN ALL FASTENER SPACING AND EDGE DISTANCE REQUIREMENTS. AT SHOT PINS, SEE TYPICAL NOTES, @ SMS MAINTAIN 1.5XDIAMETER MIN EDGE DISTANCE & SPCG. AT BOLTS SPACE NO CLOSER THAN 12 DIAMETERS AND NO MORE THAN 9" FROM END OF TRACK.

FINAL BID DOCUMENTS

Revisions: | Date

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Drawing Title	INT MTL STUD DETAILS
Approved: Project Director	
Project Title	VA PALO ALTO BLDG 6 ADMINISTRATION EXPANSION
Location	VAPAHCS - PALO ALTO, CA
Date	04.17.2014
Checked	JDH
Drawn	Author
Project Number	640-13-121P
Building Number	6
Drawing Number	S1.03A
Dwg.	of

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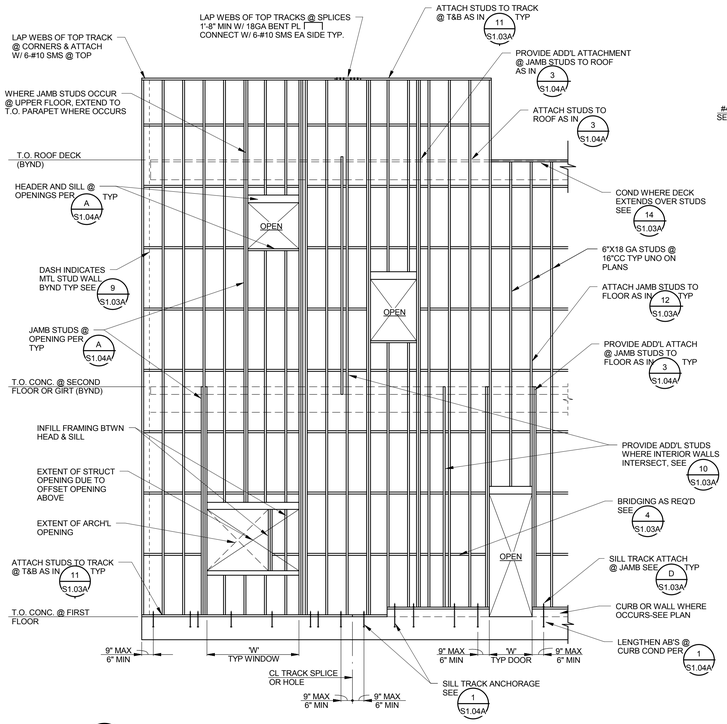
A S1.04A EXTERIOR WALL OPENING FRAMING SCHEDULE

541SD0008-1

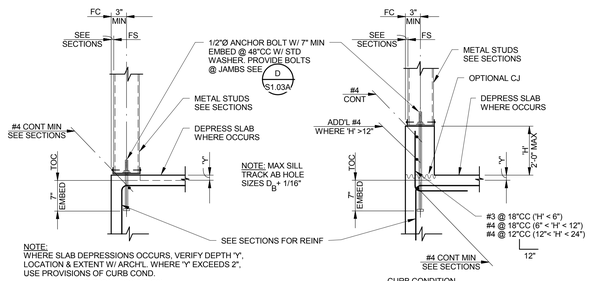
'W' WIDTH MAX	JAMBS	HEADER	SILL			
			20 GA	18 GA	16 GA	14 GA
4'-0"	J2	H4	S2	S2	S1	S1
8'-0"	J3	H4-8	S3	S3	S3	S3
12'-0"	J4	H4-10	S3	S4	S4	S3

1. SEE SHEET S1.03 FOR JAMB, HEADER, AND SILL DETAILS.
2. H4-8, H4-10 INDICATES HEADER TYPE AND DEPTH OF VERTICAL STUD ELEMENTS INSIDE HEADER. FOR DETAIL, SEE 3 S1.03A
3. FOR CONNECTION @ BASE OF WALL AT JAMBS, SEE 1 S1.04A
4. FOR CONNECTION @ TOP OF WALL AT JAMBS, SEE 2 S1.04A & 3 S1.04A



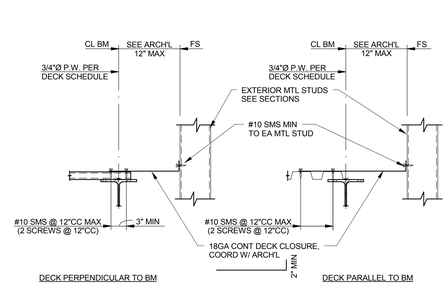
C S1.04A TYPICAL BALLOON FRAMING ELEVATION

541SD0010-48



1 S1.04A EXTERIOR METAL STUD SILL

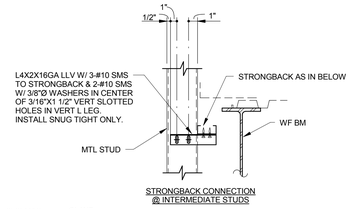
541SD0001-12

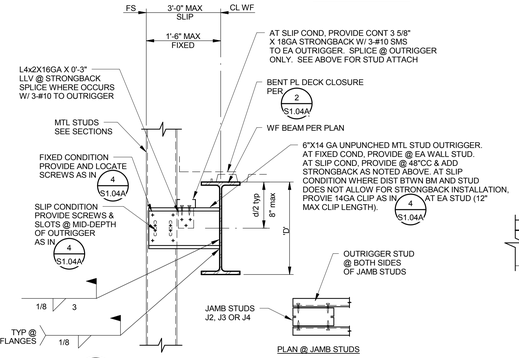


2 S1.04A DETAIL

TYPICAL EDGE AT DECK W/O CONC FILL

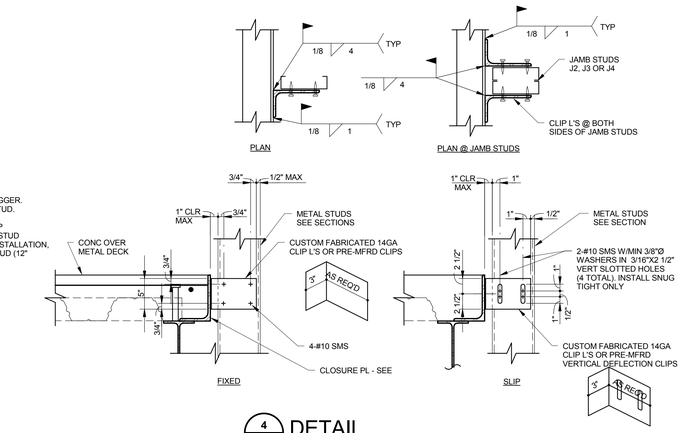
541SD0007-12





3 S1.04A DETAIL

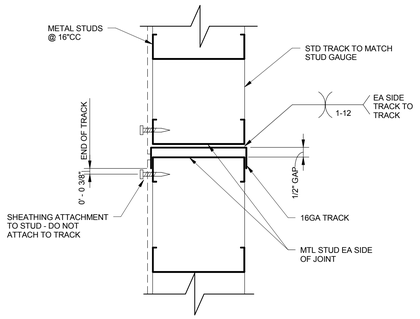
541SD0003-12



4 S1.04A DETAIL

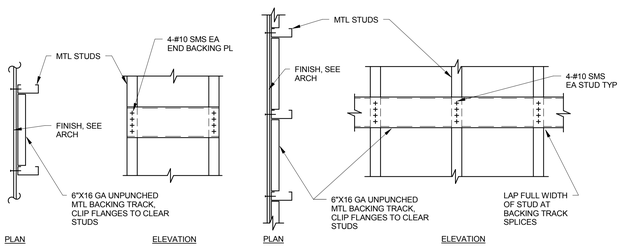
541SD0002-8

METAL STUD SUPPORT @ CONC OVER METAL DECK EDGE



5 S1.04A EXPANSION JOINT DETAIL

541SD0006

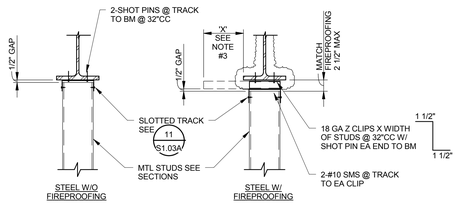


SINGLE BAY CONDITION — CONTINUOUS CONDITION

NOTE: IN LIEU OF TRACK, A 6"X16GA FLAT STRAP MAY BE USED TO SUPPORT LOADS UP TO 20 LBS/FT W A MAX. CONCENTRATED LOAD OF 50 LBS. STRAP SHALL BE CONT OVER 3 STUDS MIN. ATTACH AS NOTED ABOVE.

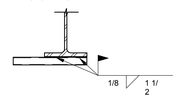
TYPICAL BACKING DETAIL 6 S1.04A

545SD0013-12



NOTES:

1. PROVIDE Z CLIPS AS REQ'D FOR FASTENERS @ JAMB STUDS SEE D S1.03A
2. AT SOFFIT HANGERS, STUDS MAY BE ATTACHED AS SHOWN ABOVE WITH THE FOLLOWING MODIFICATIONS:
   A. USE STD 18 GA DEEP LEG TRACK IN LIEU OF SLIP TRACK. PROVIDE 2-#10 SMS EA SIDE OF HANGER.
   B. WHERE FIREPROOFING OCCURS, USE 14 GA Z CLIPS @ EA HGR. ATTACH TRACK TO CLIPS W/ 3-#10 SMS LOCATED WITHIN 1/2" OF EA EDGE AND AT MIDDLE OF TRACK. ALIGN Z CLIPS W/ HANGERS (±1 1/2").
   C. WHERE NO FIREPROOFING OCCURS, ATTACH TRACK TO BM WITH 2-SHOT PINS @ 16"CC LOCATED WITHIN 1/2" OF EA EDGE OF TRACK.
3. STUDS & HGRS MAY BE OFFSET FROM BM FLANGE UP TO 9" @ STUDS & 6" @ HGRS WITH THE FOLLOWING MODIFICATIONS:
   A. AT STUDS, PROVIDE 16GA Z CLIP & 3 SHOT PINS EVENLY SPACED WHERE "X">3".
   B. AT HANGERS, WELD CLIP TO BEAM AS SHOWN, WHERE "X">3".



SLIP TRACK TO STEEL BEAM 7 S1.04A

542SD0006-12

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Drawing Title	**EXT MTL STUD DETAILS**
Approved: Project Director	
Project Title	**VA PALO ALTO BLDG 6 ADMINISTRATION EXPANSION**
Location	VAPAHCS - PALO ALTO, CA
Date	04.17.2014
Checked	JDH
Drawn	Author
Project Number	640-13-121P
Building Number	6
Drawing Number	S1.04A
Dwg. of	

Office of Construction and Facilities Management

Department of Veterans Affairs

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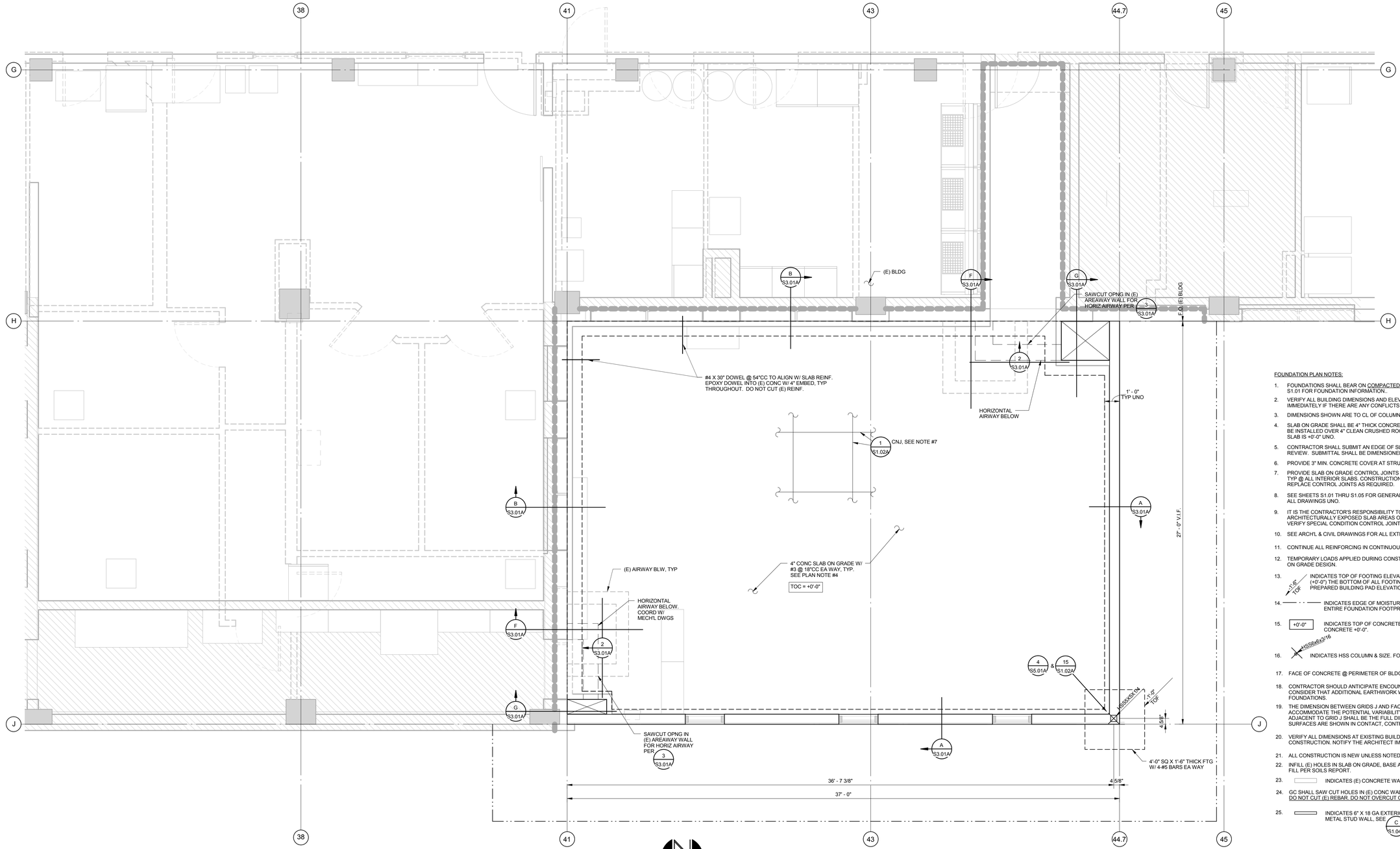

PARTIAL FOUNDATION PLAN — 3/8" = 1'-0"

FOUNDATION PLAN NOTES:

1. FOUNDATIONS SHALL BEAR ON COMPACTED EXISTING SOIL OR ENGINEERED FILL. SEE SHEET S1.01 FOR FOUNDATION INFORMATION.
2. VERIFY ALL BUILDING DIMENSIONS AND ELEVATIONS W/ ARCH'L DRAWINGS. NOTIFY THE ARCHITECT & COR IMMEDIATELY IF THERE ARE ANY CONFLICTS W/ DIMENSIONS SHOWN.
3. DIMENSIONS SHOWN ARE TO CL OF COLUMN OR FACE OF STUD, UNO.
4. SLAB ON GRADE SHALL BE 4" THICK CONCRETE W/ #3 @ 18"CC EW AT MID-DEPTH. CONCRETE SHALL BE INSTALLED OVER 4" CLEAN CRUSHED ROCK OVER 15 MIL VAPOR RETARDER. TOP OF CONCRETE SLAB IS +0'-0" UNO.
5. CONTRACTOR SHALL SUBMIT AN EDGE OF SLAB PLAN TO ARCHITECT & STRUCTURAL ENGINEER FOR REVIEW. SUBMITTAL SHALL BE DIMENSIONED AND LOCATED RELATIVE TO STRUCTURAL GRIDS.
6. PROVIDE 3" MIN. CONCRETE COVER AT STRUCTURAL STEEL AND ANCHOR BOLTS BELOW GRADE TYP.
7. PROVIDE SLAB ON GRADE CONTROL JOINTS (SJ) AS INDICATED PER TYP @ ALL INTERIOR SLABS. CONSTRUCTION JOINTS (CJ) MAY REPLACE CONTROL JOINTS AS REQUIRED. (1 S1.02A)
8. SEE SHEETS S1.01 THRU S1.05 FOR GENERAL NOTES & TYPICAL DETAILS WHICH ARE APPLICABLE TO ALL DRAWINGS UNO.
9. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE SLAB CONTROL JOINTS WITH ANY ARCHITECTURALLY EXPOSED SLAB AREAS OR THE LOCATION OF TILE CRACK CONTROL JOINTS. VERIFY SPECIAL CONDITION CONTROL JOINTS WITH ARCH'L DRAWINGS.
10. SEE ARCH'L & CIVIL DRAWINGS FOR ALL EXTERIOR CURBS, FLATWORK, PLANTERS, RAMPS, ETC.
11. CONTINUE ALL REINFORCING IN CONTINUOUS FOOTINGS THROUGH SPREAD FOOTINGS, TYP, UNO.
12. TEMPORARY LOADS APPLIED DURING CONSTRUCTION HAVE NOT BEEN CONSIDERED IN SLAB ON GRADE DESIGN.
13. 1.5" TOF — INDICATES TOP OF FOOTING ELEVATION WITH RESPECT TO REFERENCE TOP OF CONCRETE (+0'-0") THE BOTTOM OF ALL FOOTINGS SHALL BE AT LEAST 24" BELOW ADJACENT MINIMUM PREPARED BUILDING PAD ELEVATION (ON ALL SIDES), TYP UNO AND AS SHOWN ON SECTIONS.
14. INDICATES EDGE OF MOISTURE CONDITIONED NATIVE SOIL OR ENGINEERED FILL AROUND ENTIRE FOUNDATION FOOTPRINT. PREPARE PER RECOMMENDATIONS OF SOILS REPORT.
15. +0'-0" — INDICATES TOP OF CONCRETE SLAB ELEVATION RELATIVE TO REFERENCE T.O. CONCRETE +0'-0".
16. HSS5x5x0.216 — INDICATES HSS COLUMN & SIZE. FOR BASE PLATE, SEE (4 S5.01A) TYP UNO.
17. FACE OF CONCRETE @ PERIMETER OF BLDG SHALL BE 1/2" OUTSIDE FACE OF STUD, TYP UNO.
18. CONTRACTOR SHOULD ANTICIPATE ENCOUNTERING (E) FDNS ASSOCIATED WITH FORMER BUILDINGS. CONSIDER THAT ADDITIONAL EARTHWORK WILL BE REQUIRED FOR MITIGATING THE REMOVAL OF THESE FOUNDATIONS.
19. THE DIMENSION BETWEEN GRIDS J AND FACE OF BUILDING IS APPROXIMATE AND IS INTENDED TO ACCOMMODATE THE POTENTIAL VARIABILITY OF THE EXISTING BUILDING. STRUCTURAL ELEMENTS ADJACENT TO GRID J SHALL BE THE FULL DIMENSION SHOWN ON THE PLAN OR GREATER. WHERE SURFACES ARE SHOWN IN CONTACT, CONTRACTOR SHALL FILL VOID W/ MATERIALS INDICATED.
20. VERIFY ALL DIMENSIONS AT EXISTING BUILDINGS IN THE FIELD PRIOR TO FABRICATION AND CONSTRUCTION. NOTIFY THE ARCHITECT IMMEDIATELY IF THERE ARE ANY CONFLICTS.
21. ALL CONSTRUCTION IS NEW UNLESS NOTED AS EXISTING (E) ON THE DRAWINGS.
22. INFILL (E) HOLES IN SLAB ON GRADE, BASE AND SUBSOIL WHERE OCCURS. USE PROPERLY COMPACTED FILL PER SOILS REPORT.
23. INDICATES (E) CONCRETE WALL
24. GC SHALL SAW CUT HOLES IN (E) CONC WALL @ MECH'L DUCTWORK OPNGS PER (3 S3.01A) TYP. DO NOT CUT (E) REBAR. DO NOT OVERCUT OPNG.
25. INDICATES 6" X 18 GA EXTERIOR METAL STUDS @ 16"CC. FOR DETAIL @ EXT METAL STUD WALL, SEE (C S1.04A) TYP.

FINAL BID DOCUMENTS

Revisions:	Date

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Drawing Title: **PARTIAL FOUNDATION PLAN**

Approved: Project Director

Project Title: **VA PALO ALTO BLDG 6 ADMINISTRATION EXPANSION**

Location: VAPAHCS - PALO ALTO, CA

Date: **04.17.2014** | Checked: **JDH** | Drawn: **AMA**

Project Number: **640-13-121P**

Building Number: **6**

Drawing Number: **S2.01A**

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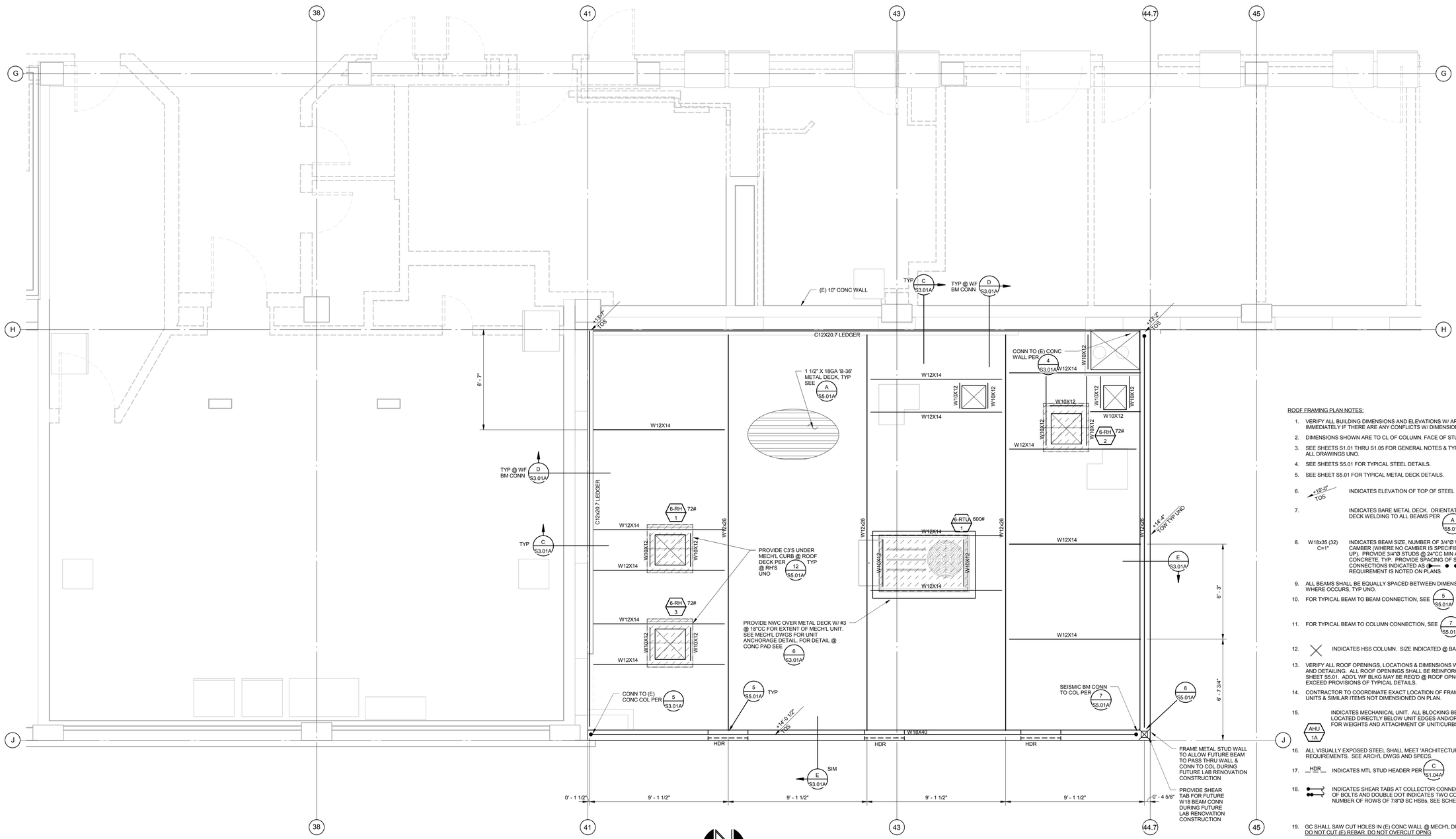

PARTIAL ROOF FRAMING PLAN — 3/8" = 1'-0"

ROOF FRAMING PLAN NOTES:

1. VERIFY ALL BUILDING DIMENSIONS AND ELEVATIONS W/ ARCH'L DRAWINGS. NOTIFY THE ARCHITECT IMMEDIATELY IF THERE ARE ANY CONFLICTS W/ DIMENSIONS SHOWN.
2. DIMENSIONS SHOWN ARE TO CL OF COLUMN, FACE OF STUD, FACE OF BLOCK OR CL BLOCK UNO.
3. SEE SHEETS S1.01 THRU S1.05 FOR GENERAL NOTES & TYPICAL DETAILS WHICH ARE APPLICABLE TO ALL DRAWINGS UNO.
4. SEE SHEETS S5.01 FOR TYPICAL STEEL DETAILS.
5. SEE SHEET S5.01 FOR TYPICAL METAL DECK DETAILS.
6. +15'-0" TOS — INDICATES ELEVATION OF TOP OF STEEL FRAMING AND BOTTOM OF METAL DECK.
7. INDICATES BARE METAL DECK. ORIENTATION AS SHOWN ON PLAN. PROVIDE DECK WELDING TO ALL BEAMS PER A S5.01A
8. W18x35 (32) C=1" — INDICATES BEAM SIZE, NUMBER OF 3/4"Ø WELDED HEADED STUDS, AND UPWARD CAMBER (WHERE NO CAMBER IS SPECIFIED FABRICATE WITH NATURAL MILL CAMBER UP). PROVIDE 3/4"Ø STUDS @ 24"CC MIN AT ALL BEAMS THAT RECEIVE MTL DECK AND CONCRETE, TYP. PROVIDE SPACING OF STUDS AT 12"CC AT ALL BEAMS W/ CONNECTIONS INDICATED AS (▶—— ● ●● ◆►) UNLESS MORE STRINGENT REQUIREMENT IS NOTED ON PLANS.
9. ALL BEAMS SHALL BE EQUALLY SPACED BETWEEN DIMENSIONED COLUMNS, GRIDS, OR BEAMS WHERE OCCURS, TYP UNO.
10. FOR TYPICAL BEAM TO BEAM CONNECTION, SEE 5 S5.01A OR 6 S5.01A UNO.
11. FOR TYPICAL BEAM TO COLUMN CONNECTION, SEE 7 S5.01A .
12. INDICATES HSS COLUMN. SIZE INDICATED @ BASE LEVEL OF COLUMN ONLY.
13. VERIFY ALL ROOF OPENINGS, LOCATIONS & DIMENSIONS WITH ARCH'L DWGS PRIOR TO FABRICATION AND DETAILING. ALL ROOF OPENINGS SHALL BE REINFORCED AS SHOWN ON TYPICAL METAL DECK SHEET S5.01. ADD'L WF BLKG MAY BE REQ'D @ ROOF OPNGS AS SHOWN ON PLAN OR WHERE OPNGS EXCEED PROVISIONS OF TYPICAL DETAILS.
14. CONTRACTOR TO COORDINATE EXACT LOCATION OF FRAMING MEMBERS SUPPORTING MECHANICAL UNITS & SIMILAR ITEMS NOT DIMENSIONED ON PLAN.
15. AHU 1A — INDICATES MECHANICAL UNIT. ALL BLOCKING BEAMS SHALL BE W10x12 UNO AND SHALL BE LOCATED DIRECTLY BELOW UNIT EDGES AND/OR CURBS, SEE MECHANICAL UNIT DRAWINGS FOR WEIGHTS AND ATTACHMENT OF UNIT/CURBS TO STRUCTURE.
16. ALL VISUALLY EXPOSED STEEL SHALL MEET 'ARCHITECTURALLY EXPOSED STRUCTURAL STEEL' REQUIREMENTS. SEE ARCH'L DWGS AND SPECS.
17. HDR — INDICATES MTL STUD HEADER PER C S1.04A
18. INDICATES SHEAR TABS AT COLLECTOR CONNECTIONS. SINGLE DOT INDICATES ONE COLUMN OF BOLTS AND DOUBLE DOT INDICATES TWO COLUMNS OF BOLTS. FOR SHEAR PL INFO AND NUMBER OF ROWS OF 7/8"Ø SC HSBs, SEE SCHEDULE C S5.01A
19. GC SHALL SAW CUT HOLES IN (E) CONC WALL @ MECH'L DUCTWORK OPNGS PER 3 S3.01A TYP. DO NOT CUT (E) REBAR. DO NOT OVERCUT OPNG.

FINAL BID DOCUMENTS

Revisions:	Date

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ARCHITECT/ENGINEERS:

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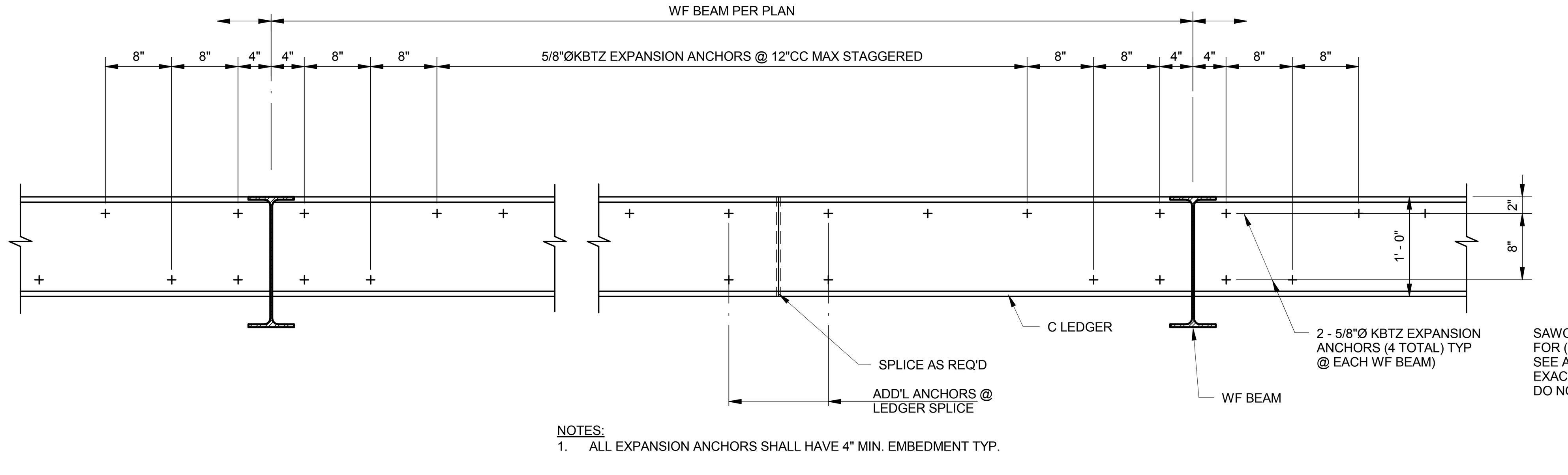
Drawing Title	**PARTIAL ROOF FRAMING PLAN**
Approved: Project Director	
Project Title	**VA PALO ALTO BLDG 6 ADMINISTRATION EXPANSION**
Location	VAPAHCS - PALO ALTO, CA
Date	**04.17.2014**
Checked	**JDH**
Drawn	**Author**
Project Number	**640-13-121P**
Building Number	**6**
Drawing Number	**S2.02A**
Dwg.	of

Office of Construction and Facilities Management

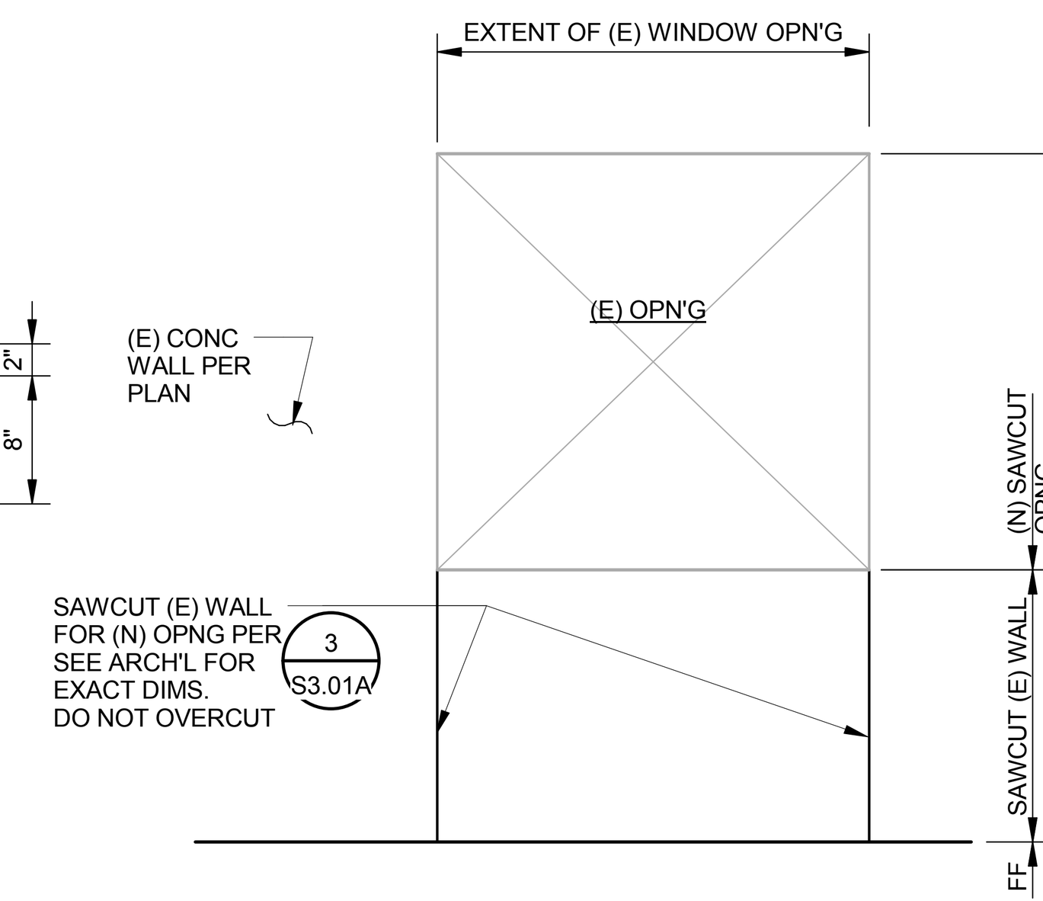
Department of Veterans Affairs

VA FORM 08-6231

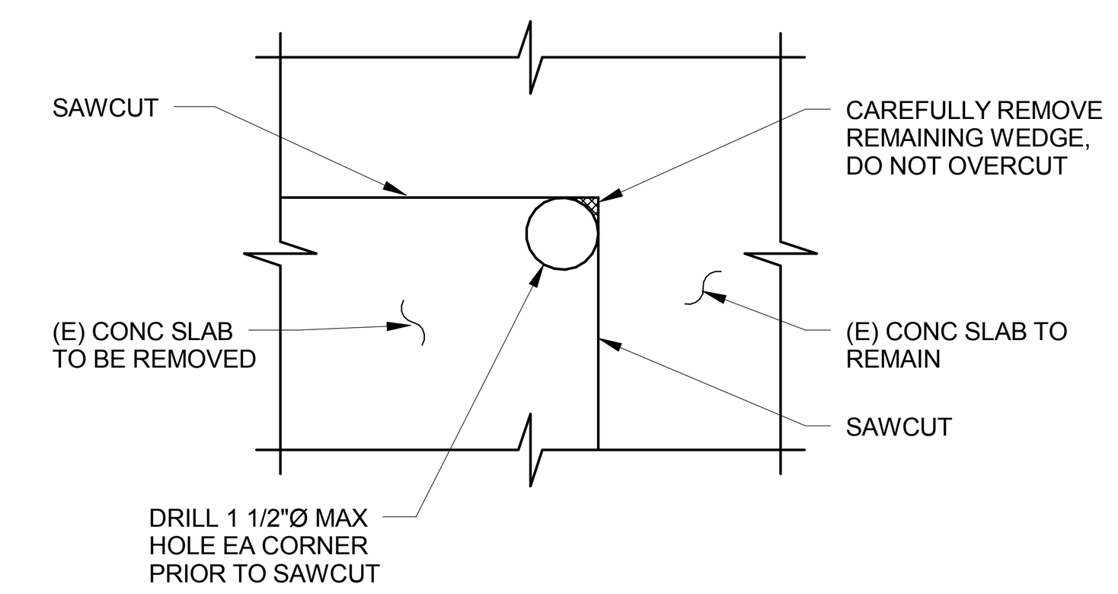


NOTES:
1. ALL EXPANSION ANCHORS SHALL HAVE 4" MIN. EMBEDMENT TYP.

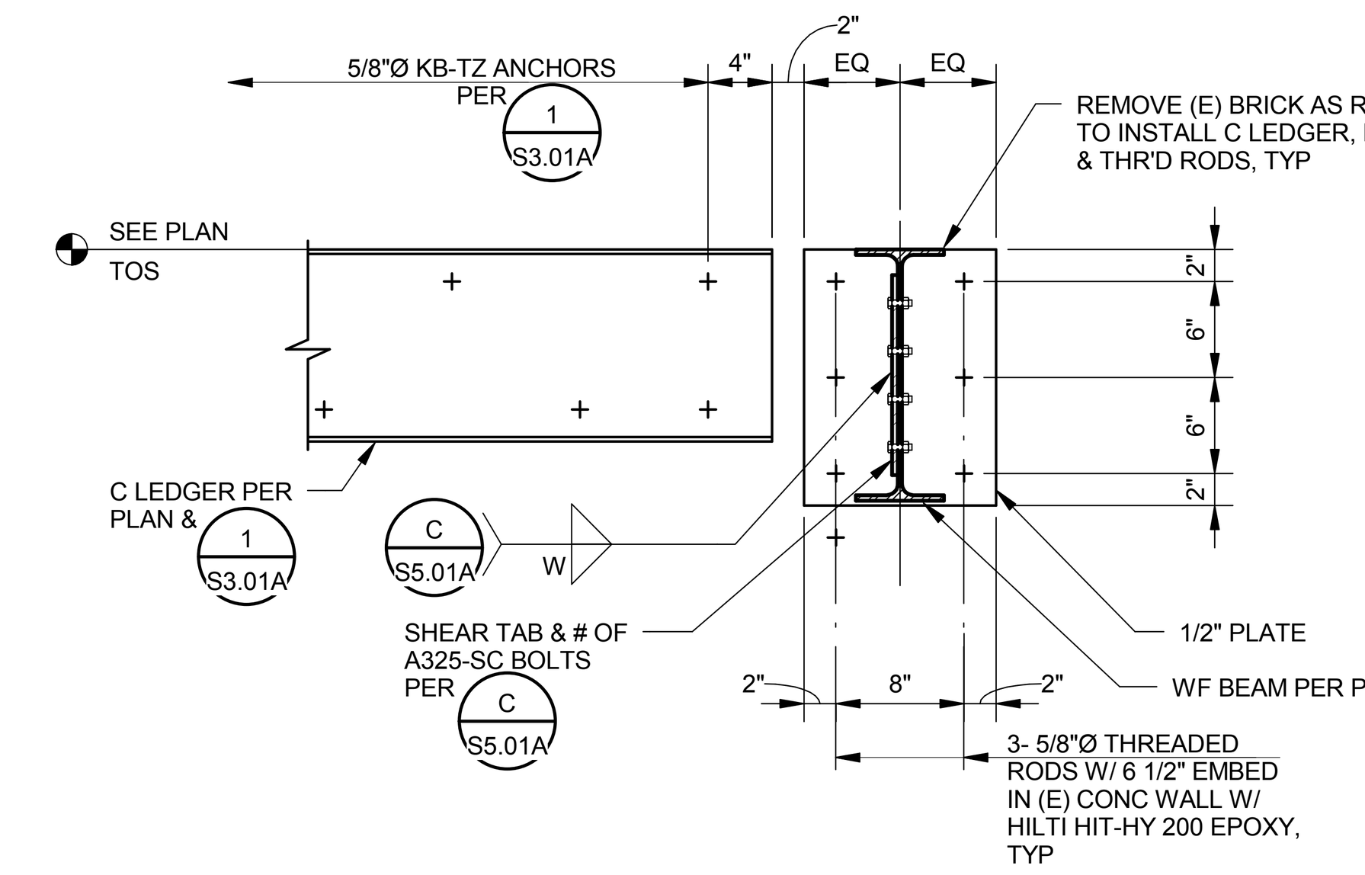
ELEVATION 1/S3.01A — 1" = 1'-0"



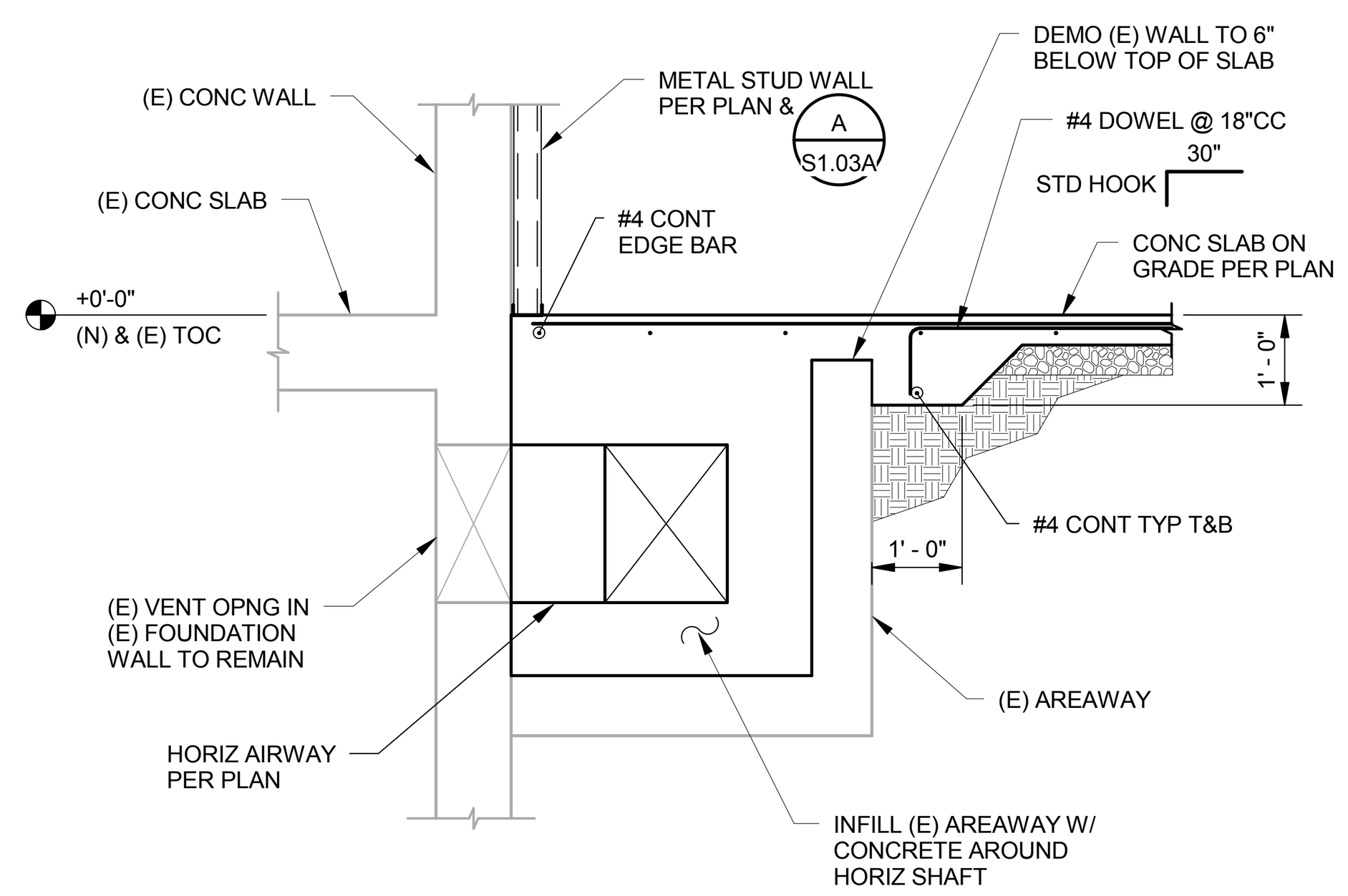
ELEVATION 2/S3.01A



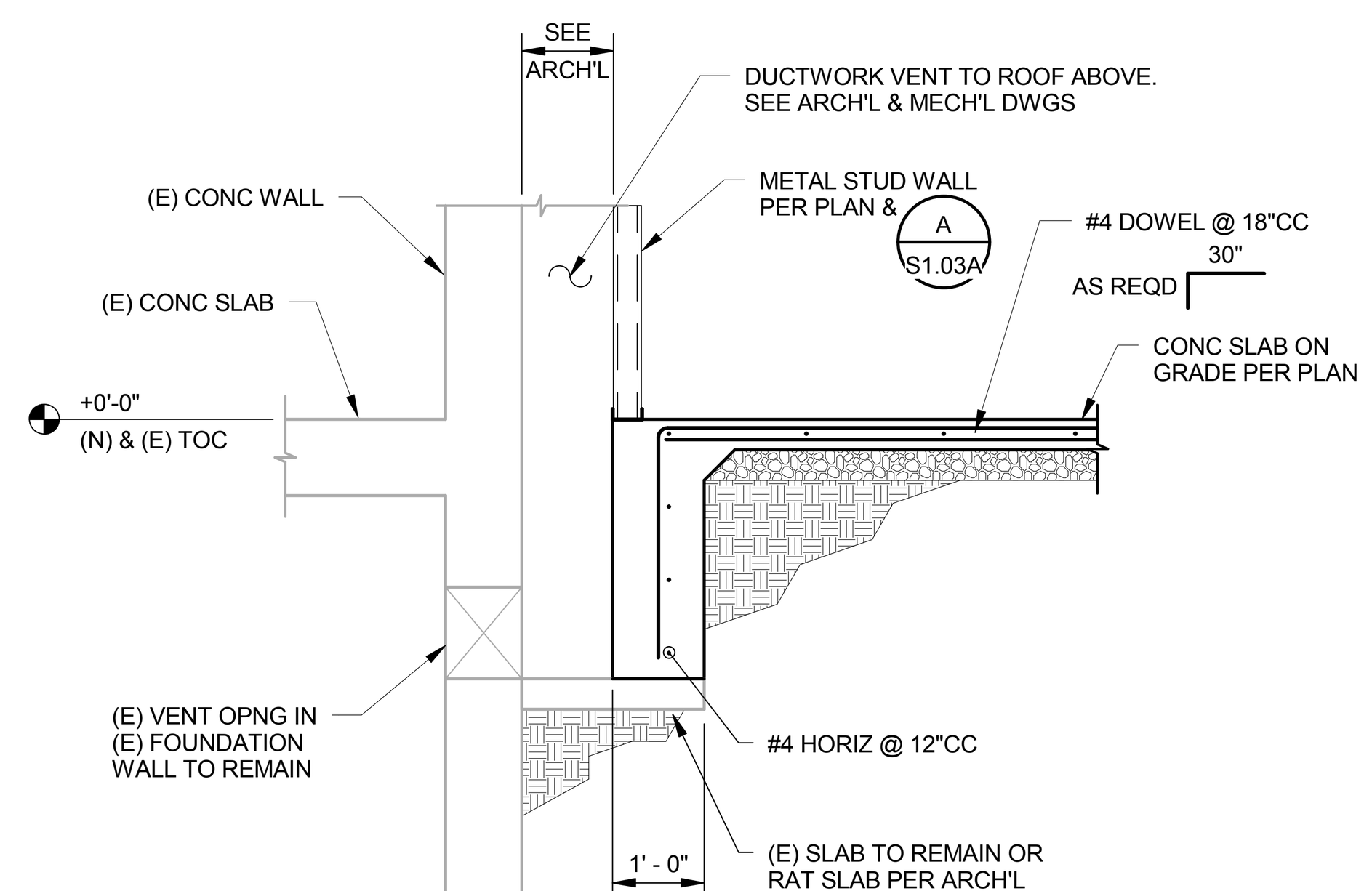
SAWCUT OPENING IN EXISTING SLAB OR WALL 3/S3.01A



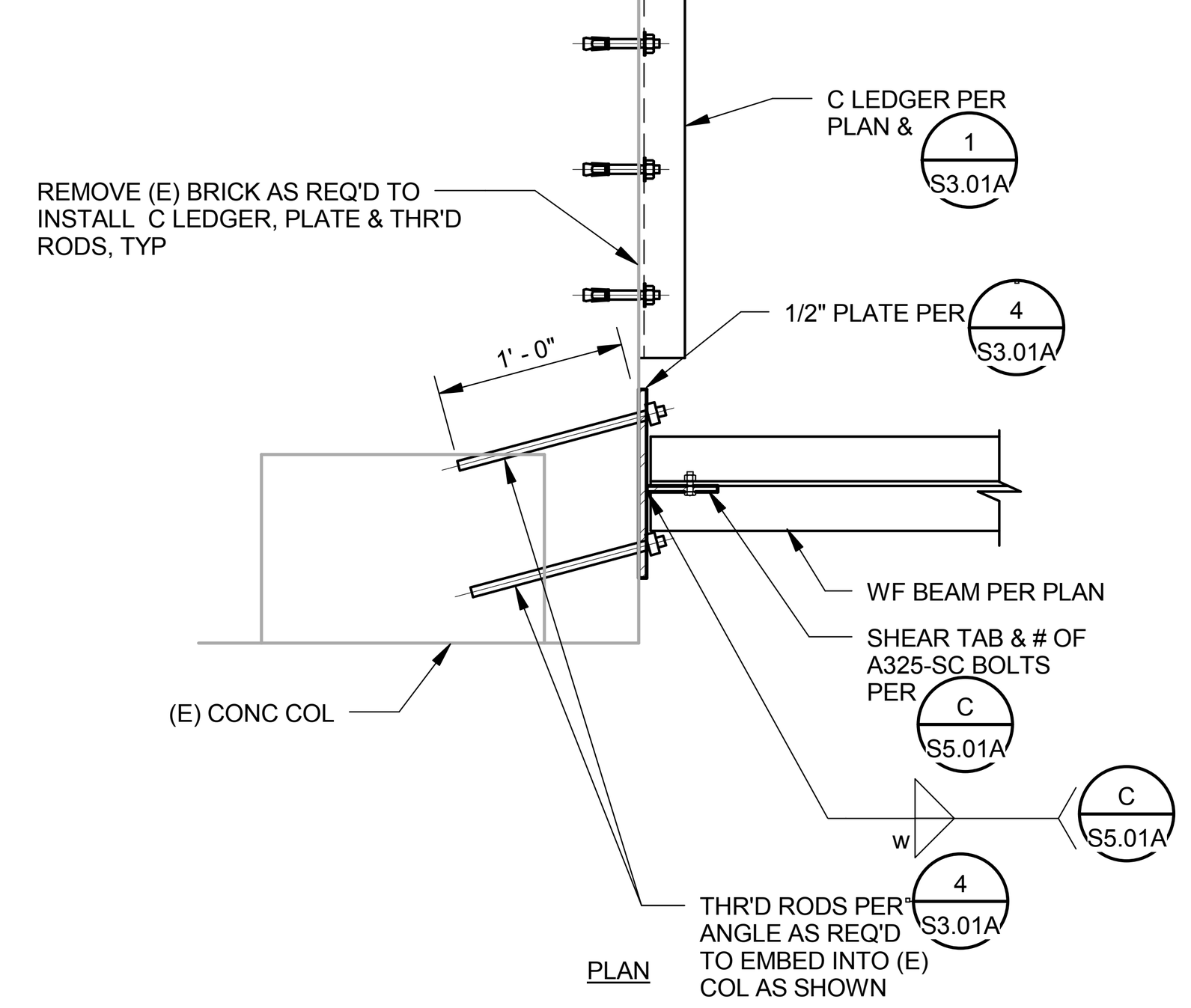
DETAL 4/S3.01A — 1" = 1'-0"



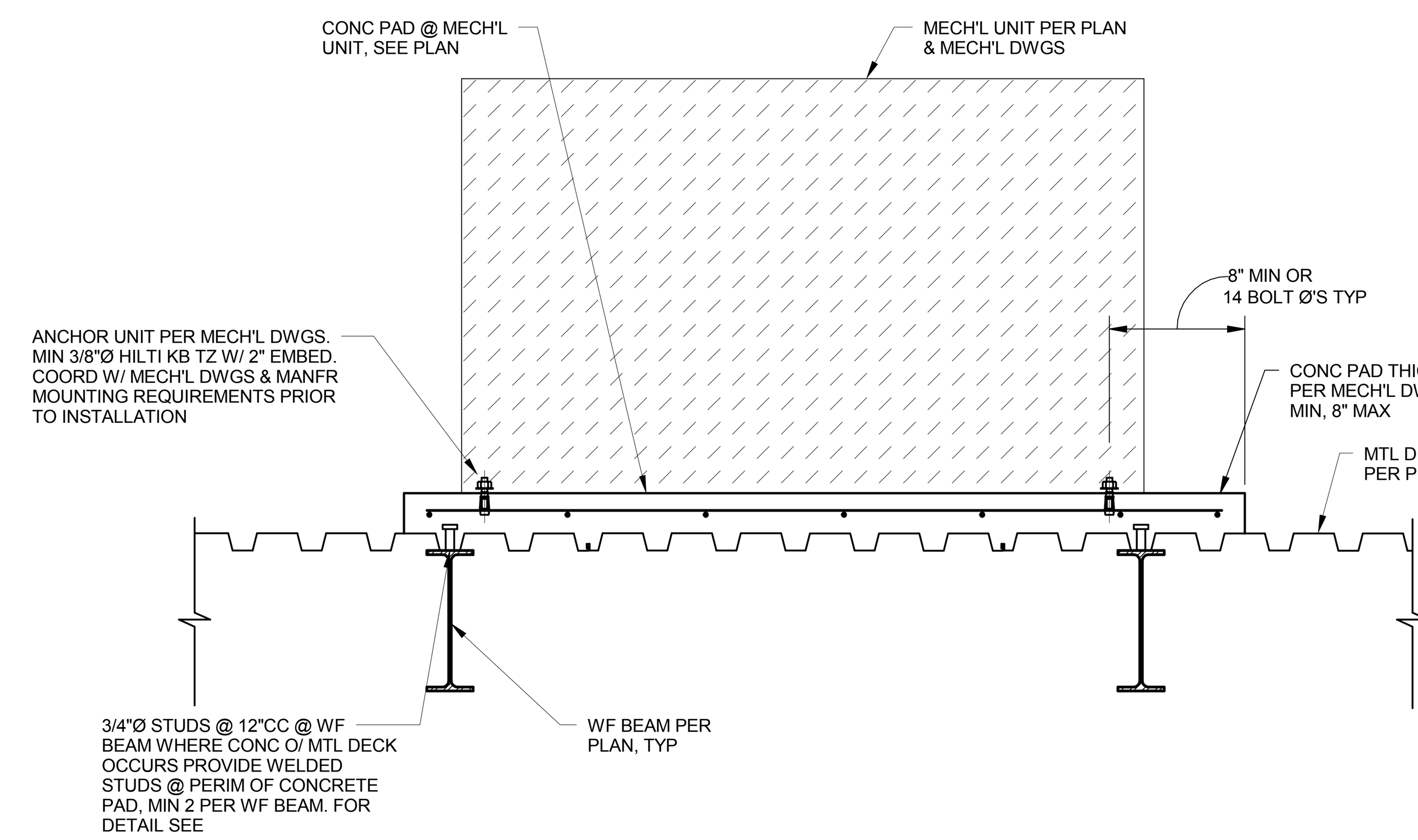
SECTION F/S3.01A — 1/2" = 1'-0"



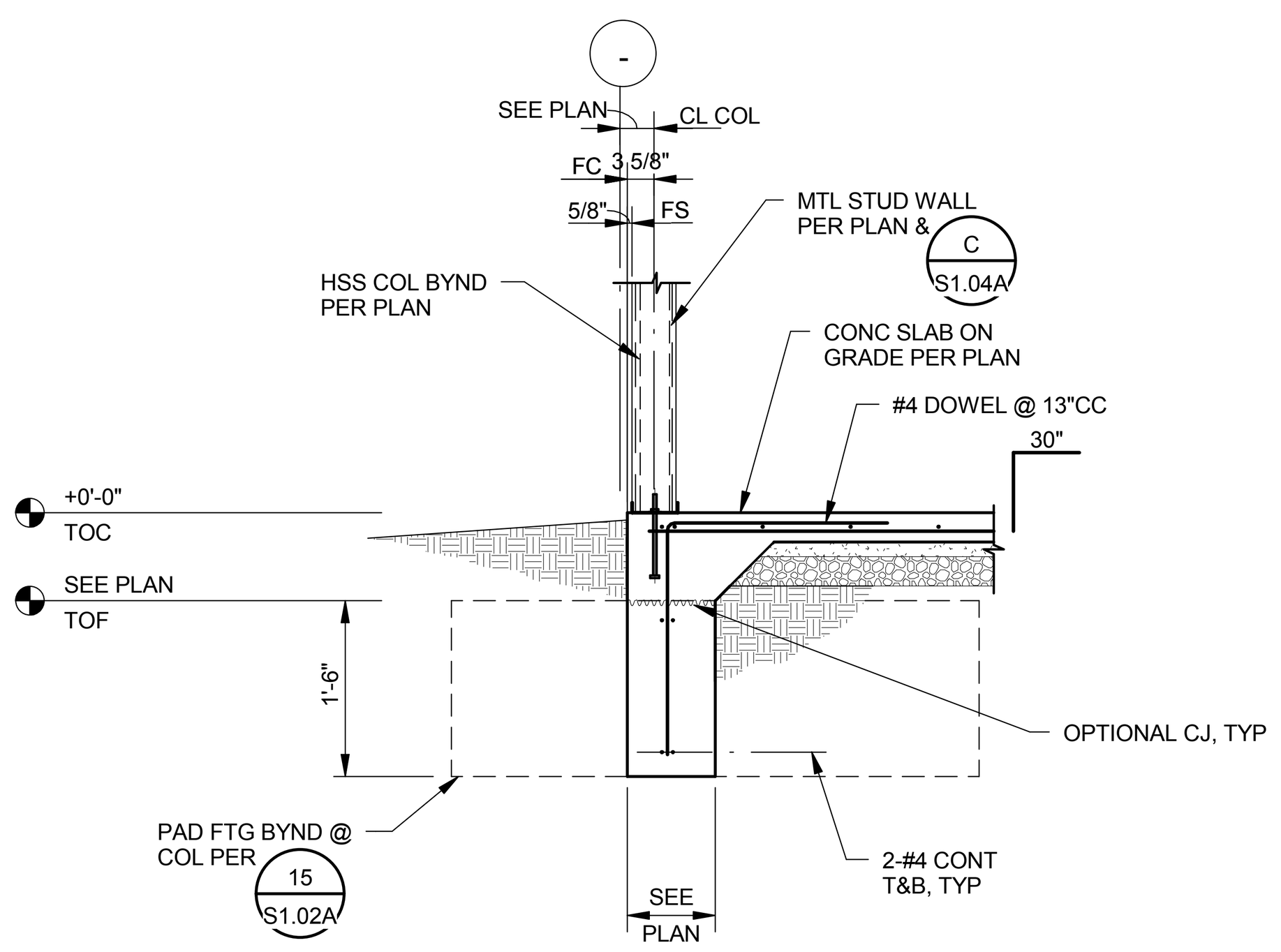
SECTION G/S3.01A — 1/2" = 1'-0"



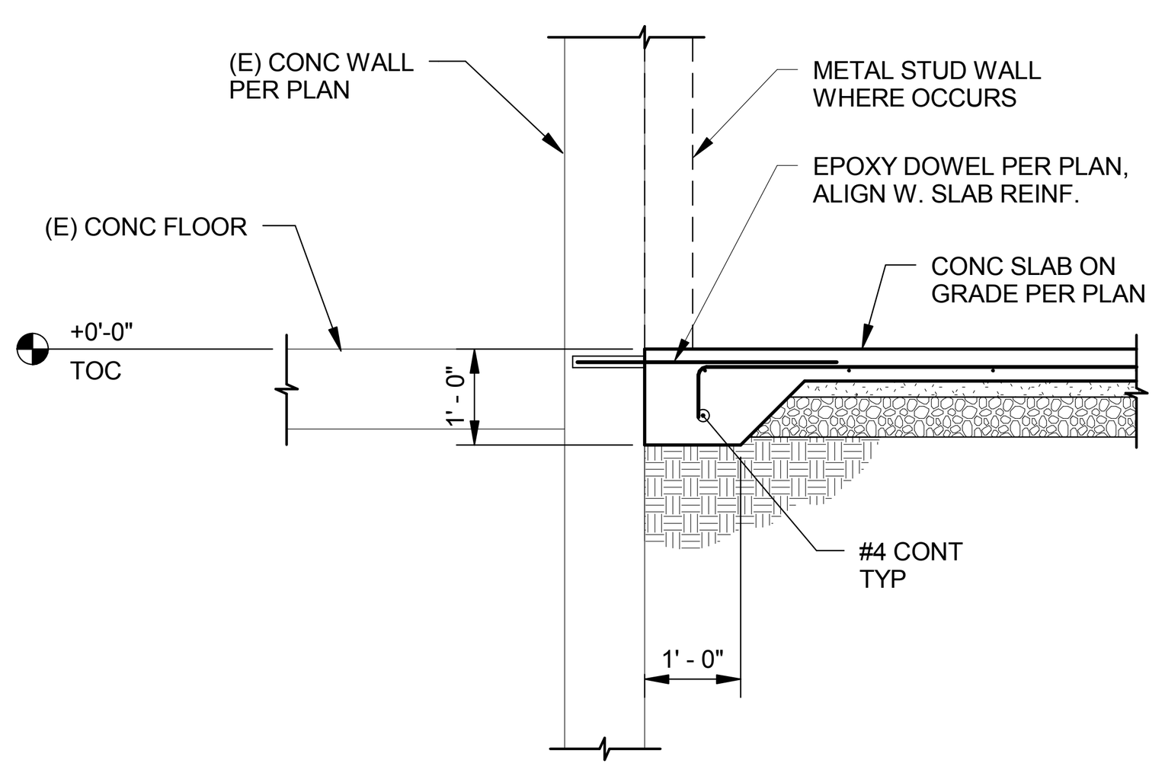
DETAL 5/S3.01A — 1" = 1'-0"



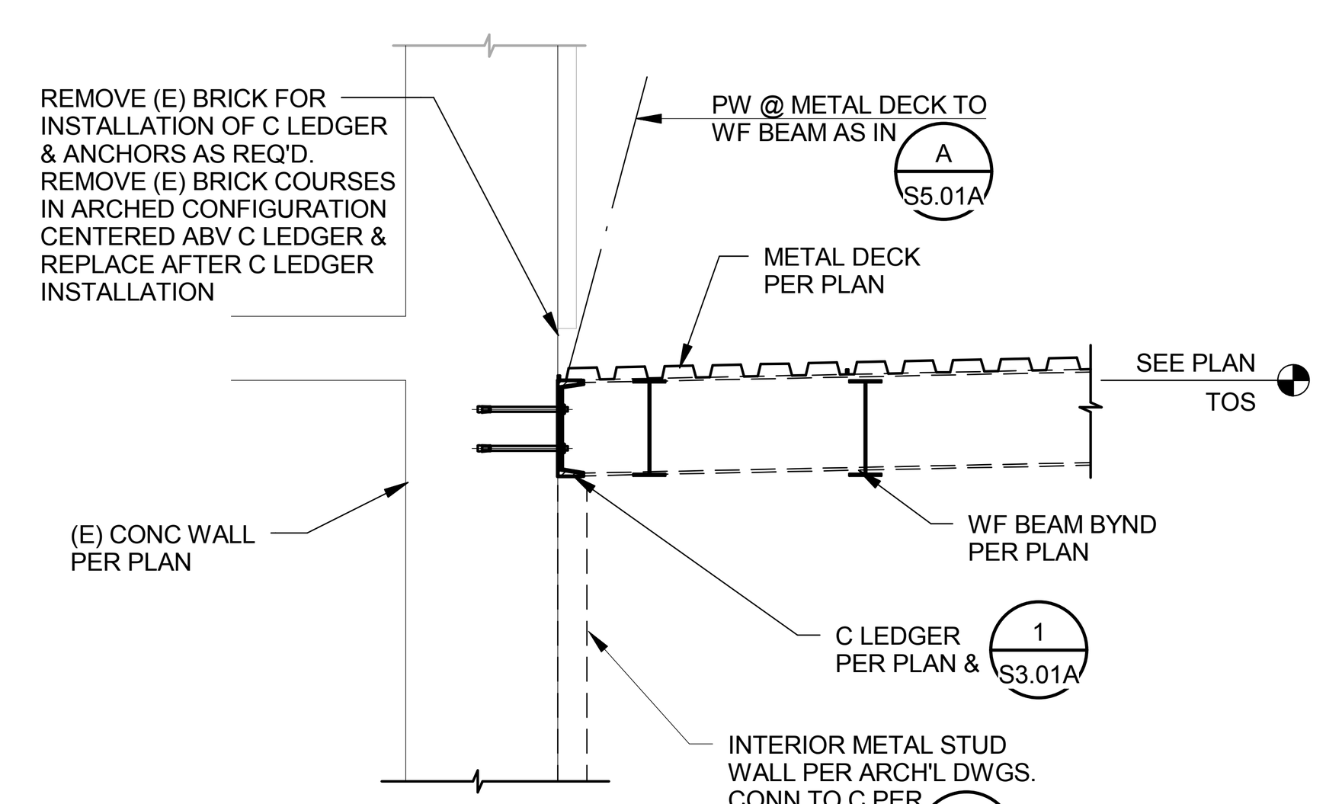
DETAIL 6/S3.01A — 1" = 1'-0"



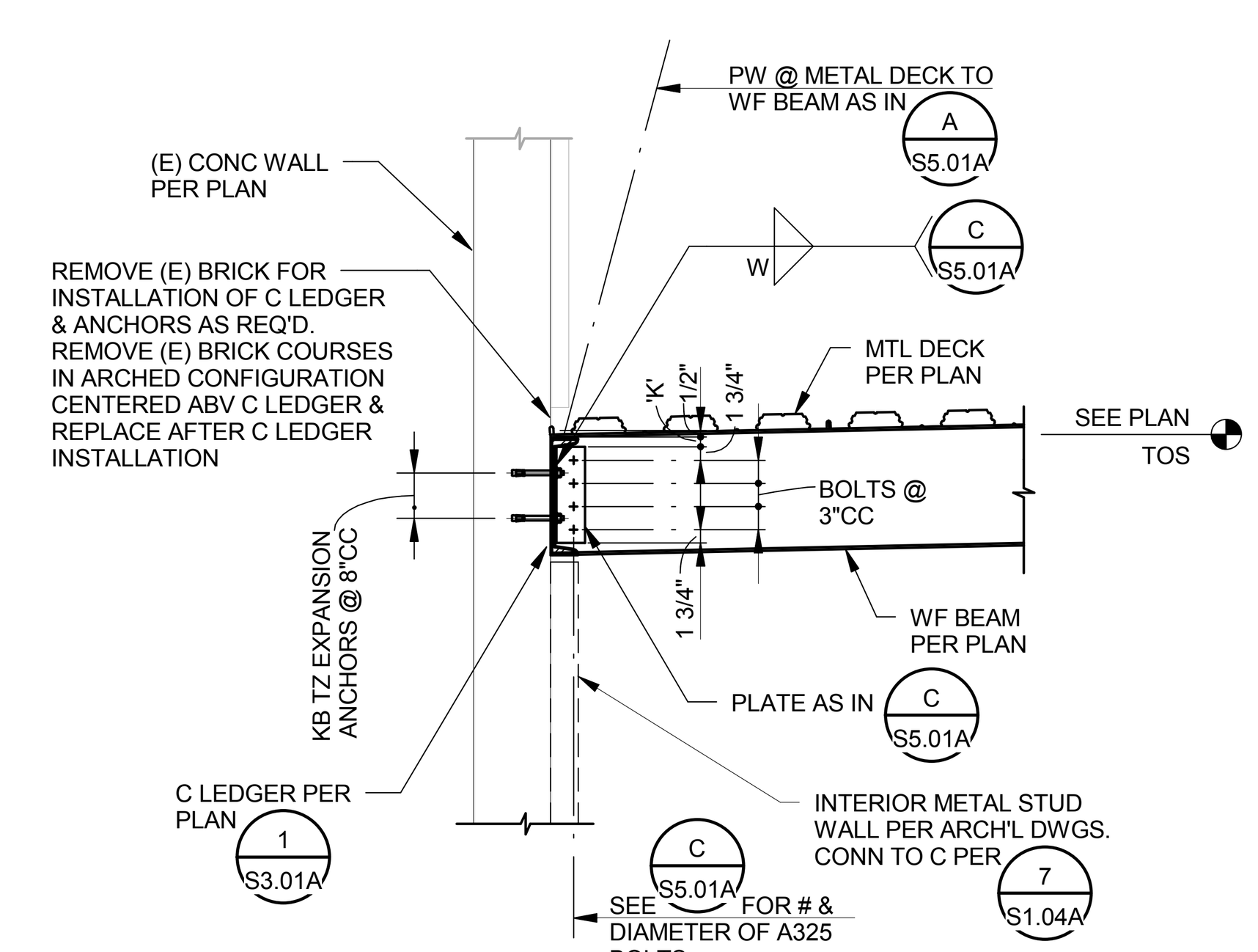
SECTION A/S3.01A — 1/2" = 1'-0"



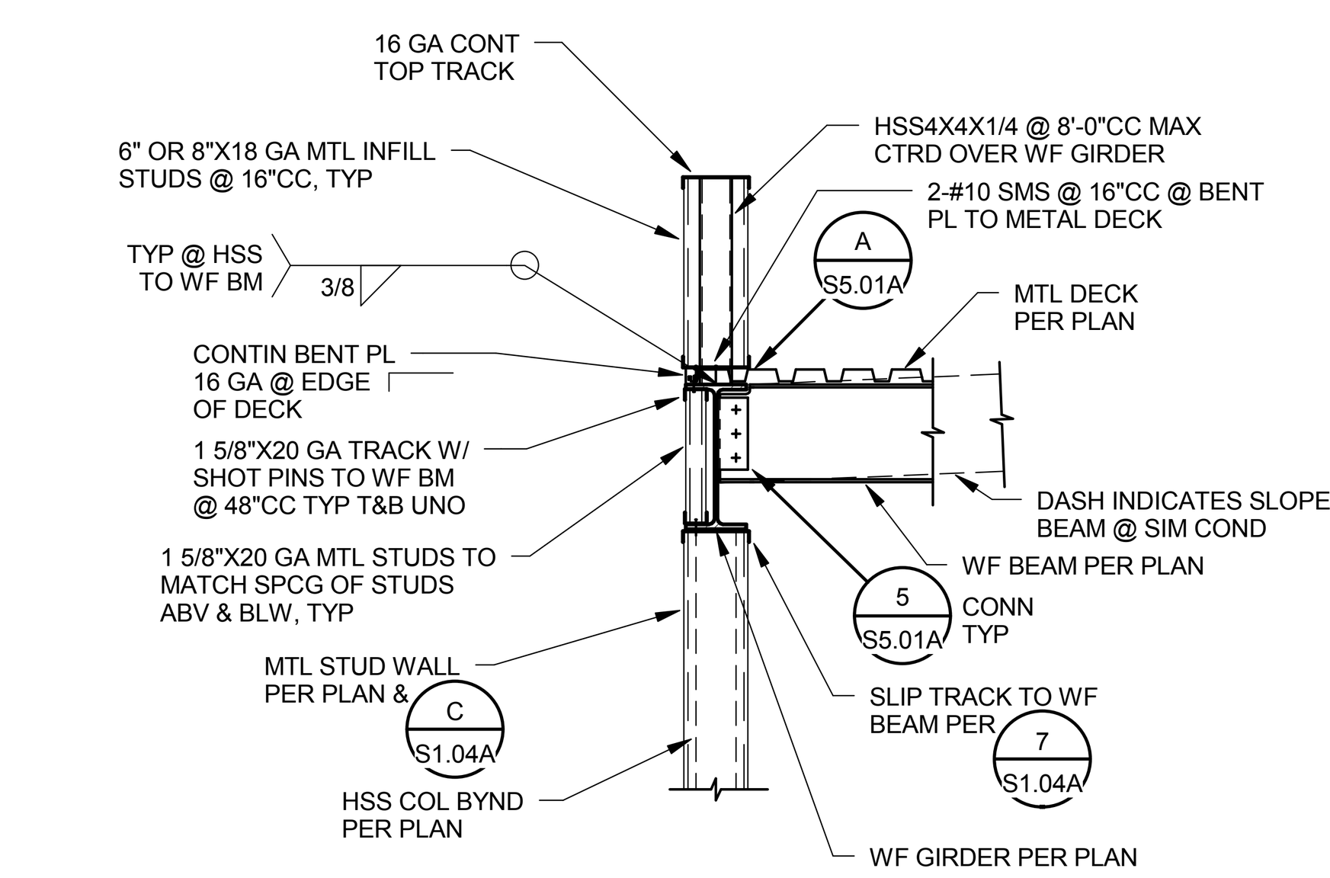
SECTION B/S3.01A — 1/2" = 1'-0"



SECTION C/S3.01A — 1/2" = 1'-0"



SECTION D/S3.01A — 1/2" = 1'-0"



SECTION E/S3.01A — 1/2" = 1'-0"

FINAL BID DOCUMENTS

Revisions: | Date

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Drawing Title: SECTIONS AND DETAILS

Approved: Project Director

Project Title: VA PALO ALTO BLDG 6 ADMINISTRATION EXPANSION

Location: VAPAHCS - PALO ALTO, CA

Date: 04.17.2014 | Checked: JDH | Drawn: Author

Project Number: 640-13-121P

Building Number: 6

Drawing Number: S3.01A

Dwg. of

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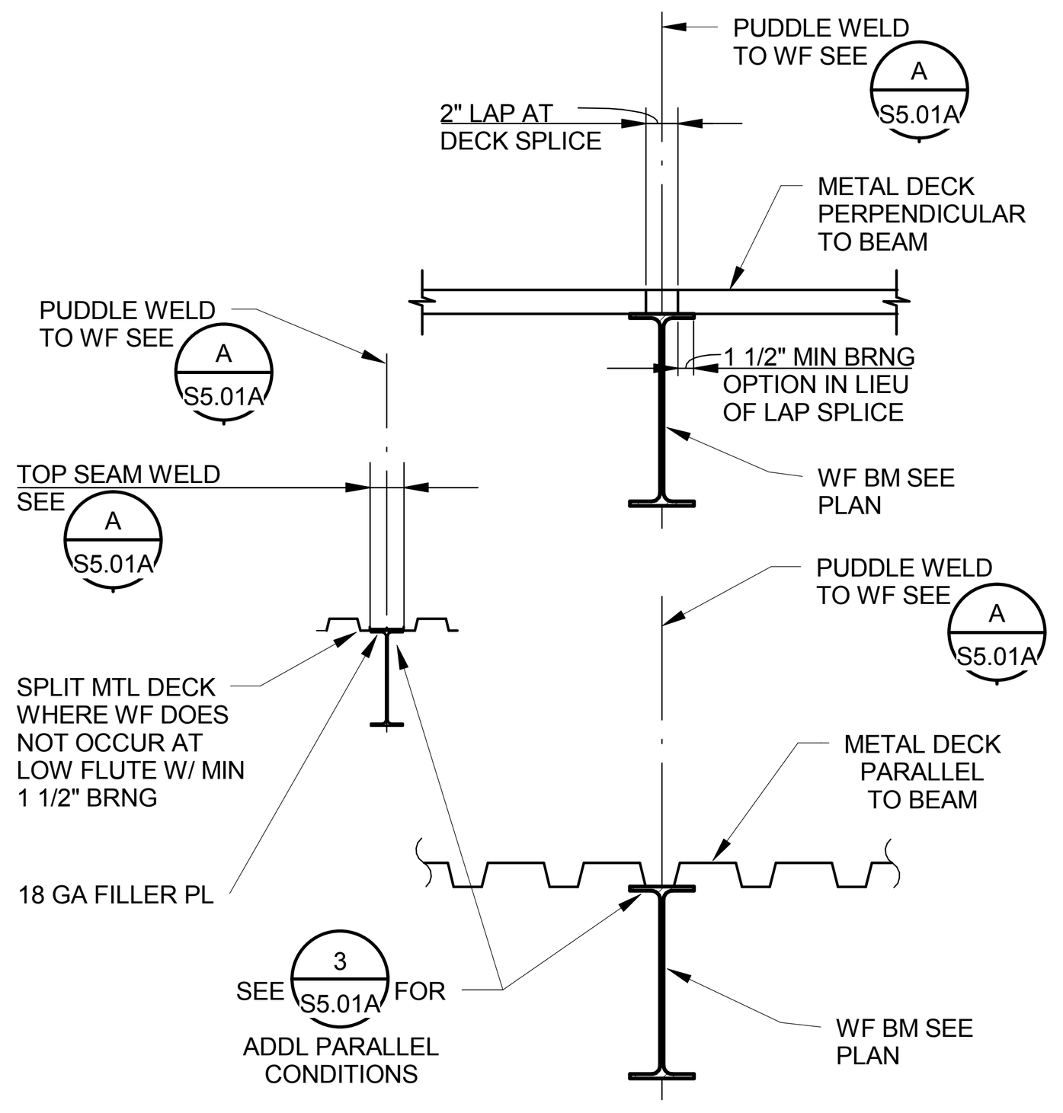
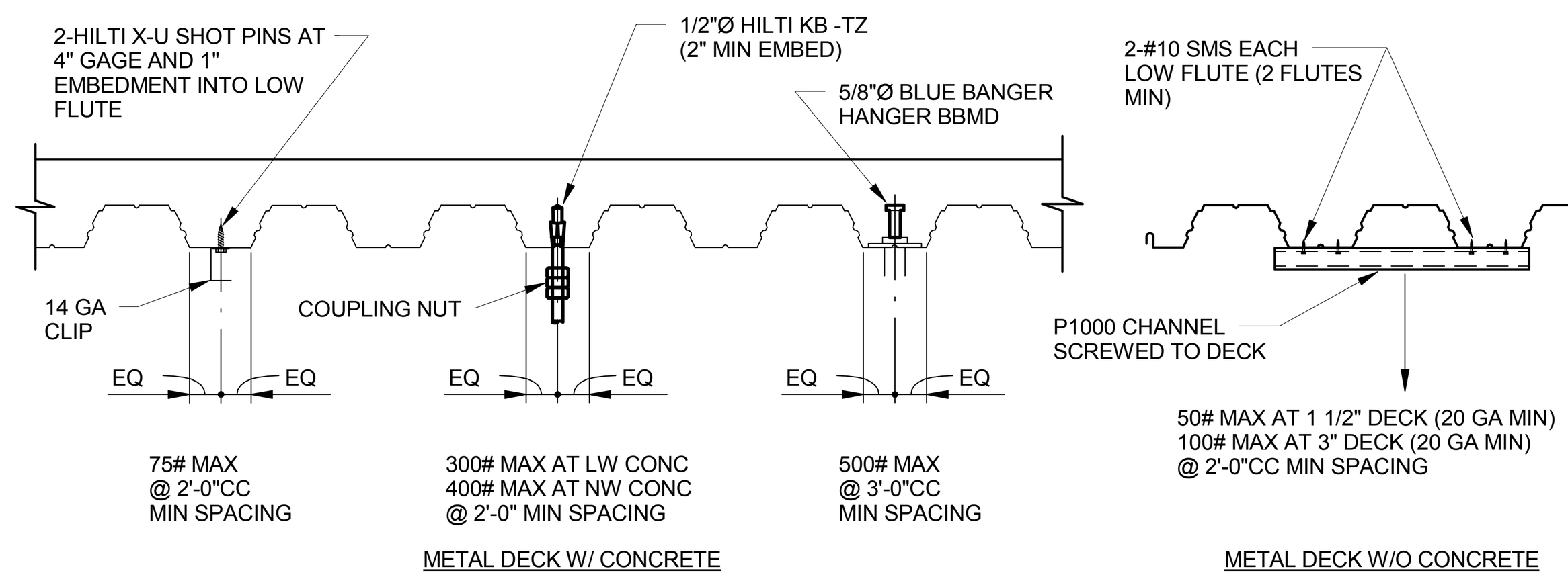
Department of Veterans Affairs

VA FORM 08-6231

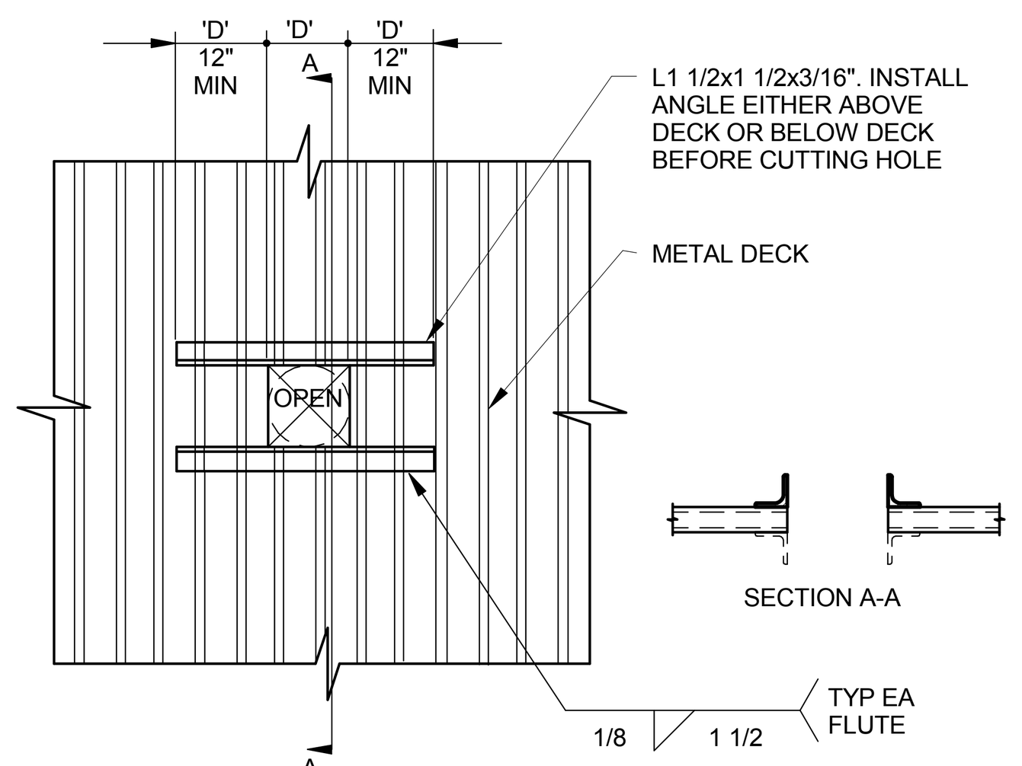


NOTE: PROVIDE 2 ROWS OF PW AT ALL DRAG LINES SHOWN ON PLAN (BEAMS W/ SPECIAL END CONNECTIONS)

1/S5.01A **DETAIL**
530SD003-12
METAL DECK W/O CONC TO WF BEAMS

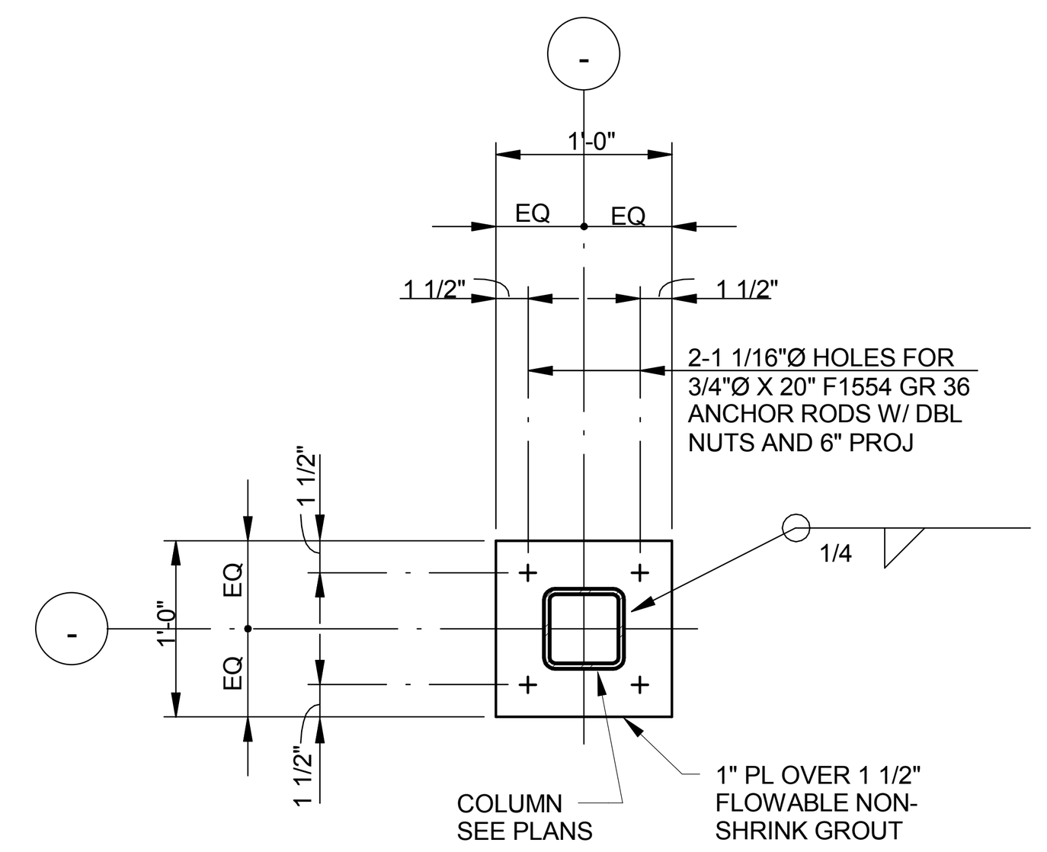


2/S5.01A **DETAIL**
530SD007-12 REV



NOTE: APPLIES AT HOLES FROM 6" TO 24" WIDE IN METAL DECK WITHOUT CONCRETE

3/S5.01A **DETAIL**
531SD003-12



4/S5.01A **DETAIL**
510SD005-12

530SD001-1

A/S5.01A DECK WELDING SCHEDULE

DECK TYPE	DEPTH & GAUGE	PERPENDICULAR SUPPORTS	PARALLEL SUPPORTS	SIDE LAPS	DIAPHRAGM SHEAR CAPACITY
B-36 ROOF DECK	1 1/2"X18 GA	7 PINS PER SHEET	PINS @ 12" CC	DG @ 24" CC	1515#/,

1. DG = DELTA GRIP.
2. METAL DECK SHALL BE VERCO OR APPROVED EQUAL, OF TYPE AND GAUGE SHOWN ON PLANS AND WELDED AS SHOWN ABOVE.
3. AT COMPOSITE FLOOR DECKS, 3/4"Ø SHEAR STUDS MAY SUBSTITUTE FOR 3/4"Ø PUDDLE WELDS.
4. SEE B/S5.01A FOR TYPICAL WELD PATTERNS.
5. SEE 1/S5.01A FOR METAL DECK WELDING AT STRUCT STEEL SUPPORTS.
6. ALL METAL DECK SHALL HAVE TWO SPANS MINIMUM.
7. PROVIDE SHORING AS REQUIRED AT ALL DECKS PER MFR RECOMMENDATIONS.

530SD002-1

B/S5.01A METAL DECK WELD PATTERNS

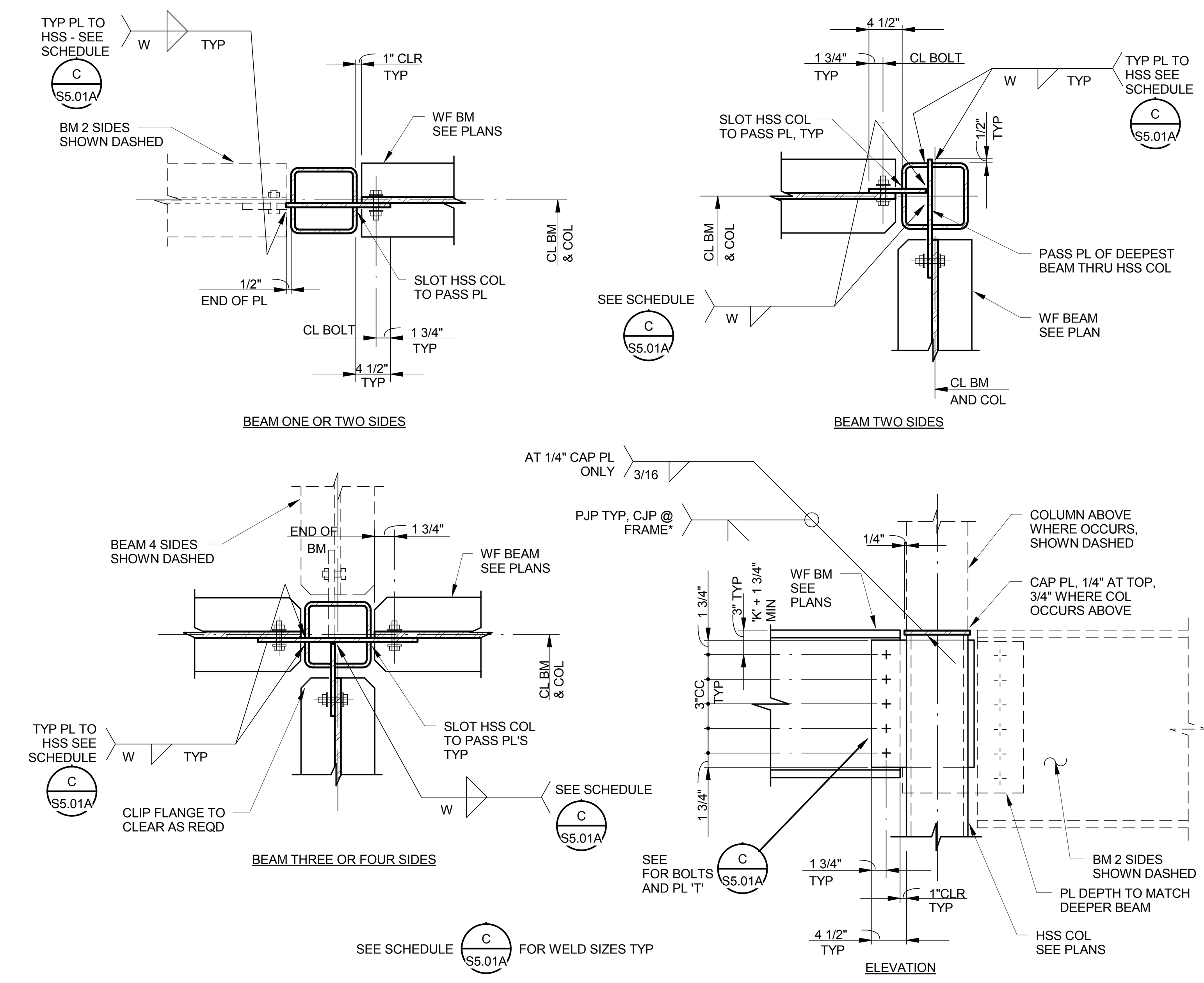
DECK TYPE	PROFILE	NO. 3/4"Ø PW PER SHEET
TYPE B36	36"	7

CONNECTION SCHEDULE C/S5.01A

513SD001-1

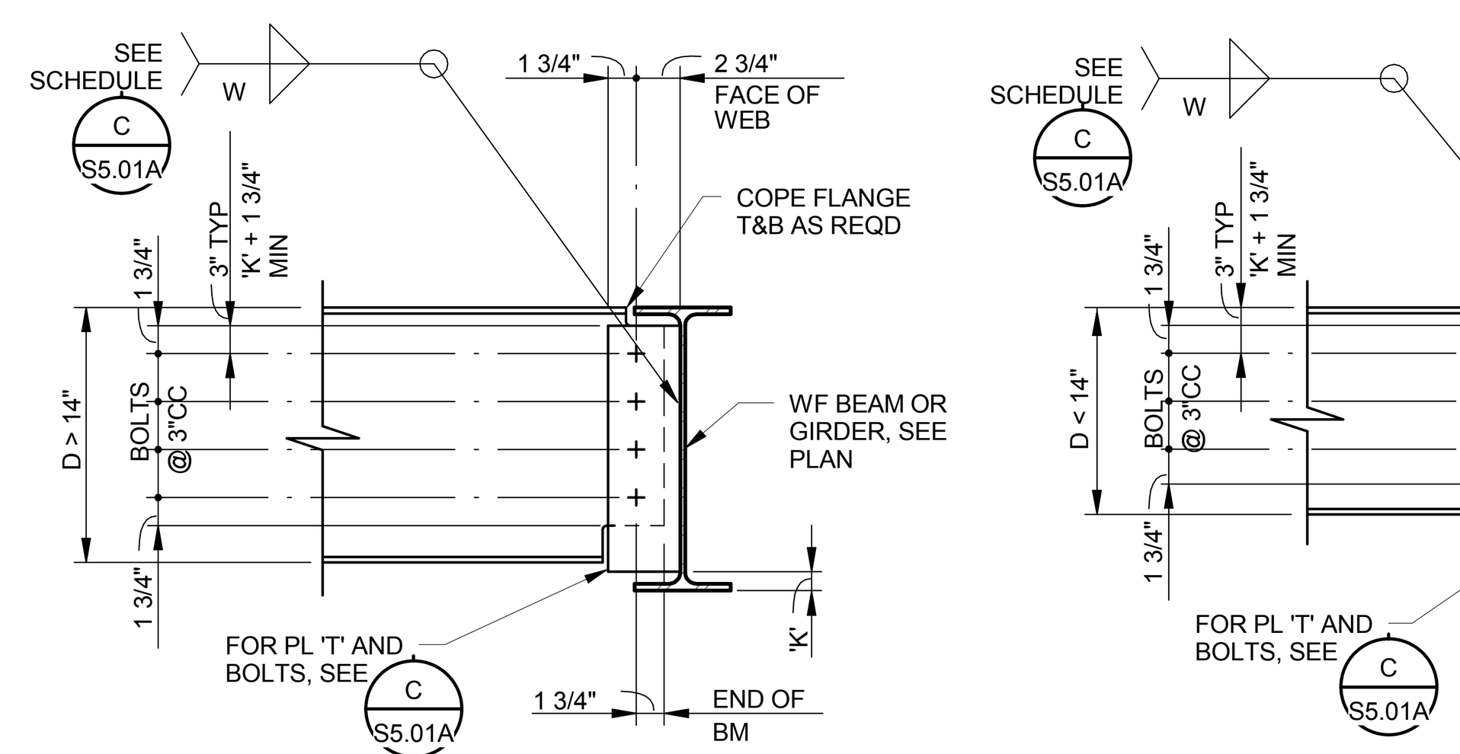
BEAM SIZE	NO. & DIA. A325-N BOLTS	SHR É 'T'	W (weld symbol)	MAX. LOAD CAPACITY [2]
C8 & C10	2 - 7/8"Ø	1/4"	3/16"	26.1 K
W8 & W10	2 - 7/8"Ø	1/4"	3/16"	26.1 K
W12 & W14	3 - 7/8"Ø	1/4"	3/16"	39.1 K
W16	4 - 7/8"Ø	3/8"	1/4"	78.3 K
W18	5 - 7/8"Ø	3/8"	1/4"	97.9 K
W21	5 - 7/8"Ø	3/8"	1/4"	97.9 K
W24	6 - 7/8"Ø	3/8"	1/4"	117K
W27	7 - 7/8"Ø	3/8"	1/4"	137 K
W30	8-1"Ø	3/8"	5/16"	152K
W33	9-1"Ø	1/2"	3/8"	227 K
W36	10-1"Ø	5/8"	3/8"	275 K

1. THIS SCHEDULE APPLIES TO NON-FRAME CONNECTIONS, TYPICAL.
2. LRFD LOAD CAPACITY PER AISC MANUAL 13TH ED., TABLE 10-9A.
3. ALL SHEAR TABS @ COLLECTOR CONNECTIONS (INDICATED ON PLANS AS • & ••) SHALL BE ASTM A-572 GR 50 PLATE MATERIAL



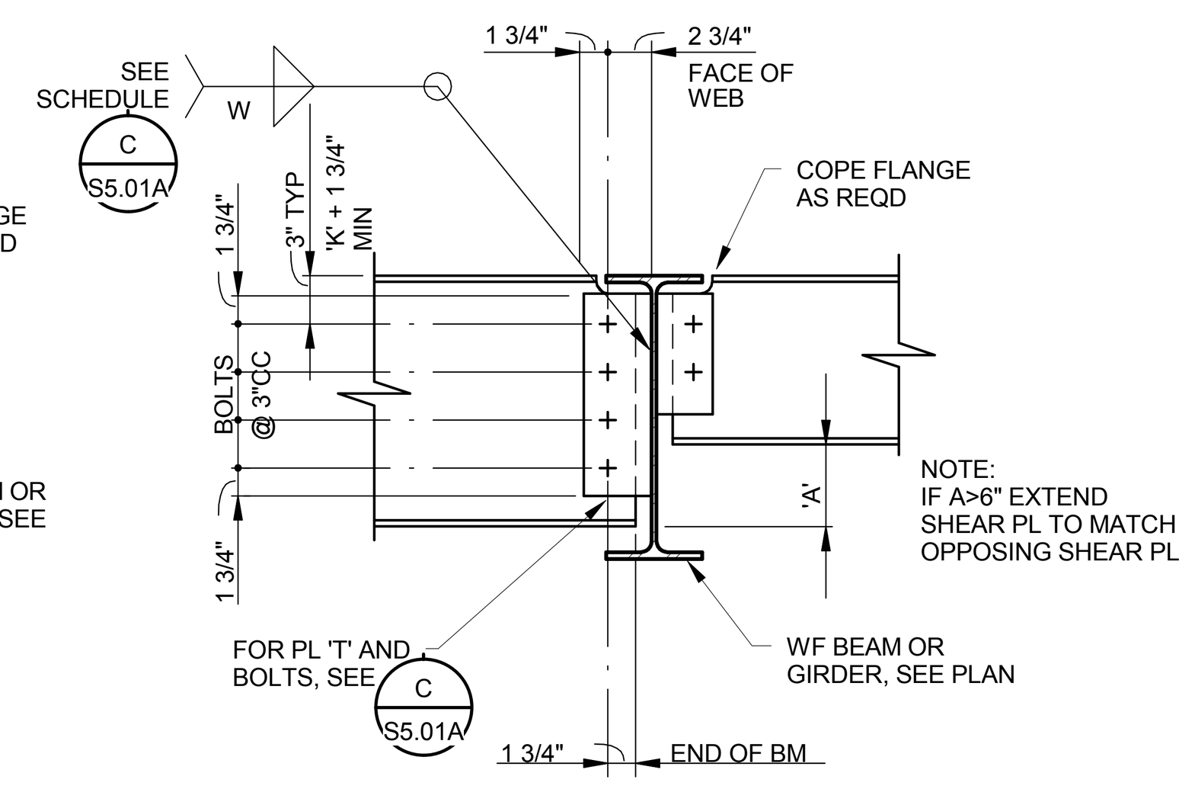
"CJP WELD @ FRAME COL SPLICE IS A DEMAND CRITICAL WELD TO BE PERFORMED IN ACCORDANCE W/ AISC 341 SECTION 7.3B AND APPENDIX W6

8/S5.01A **DETAIL**
512SD011-12



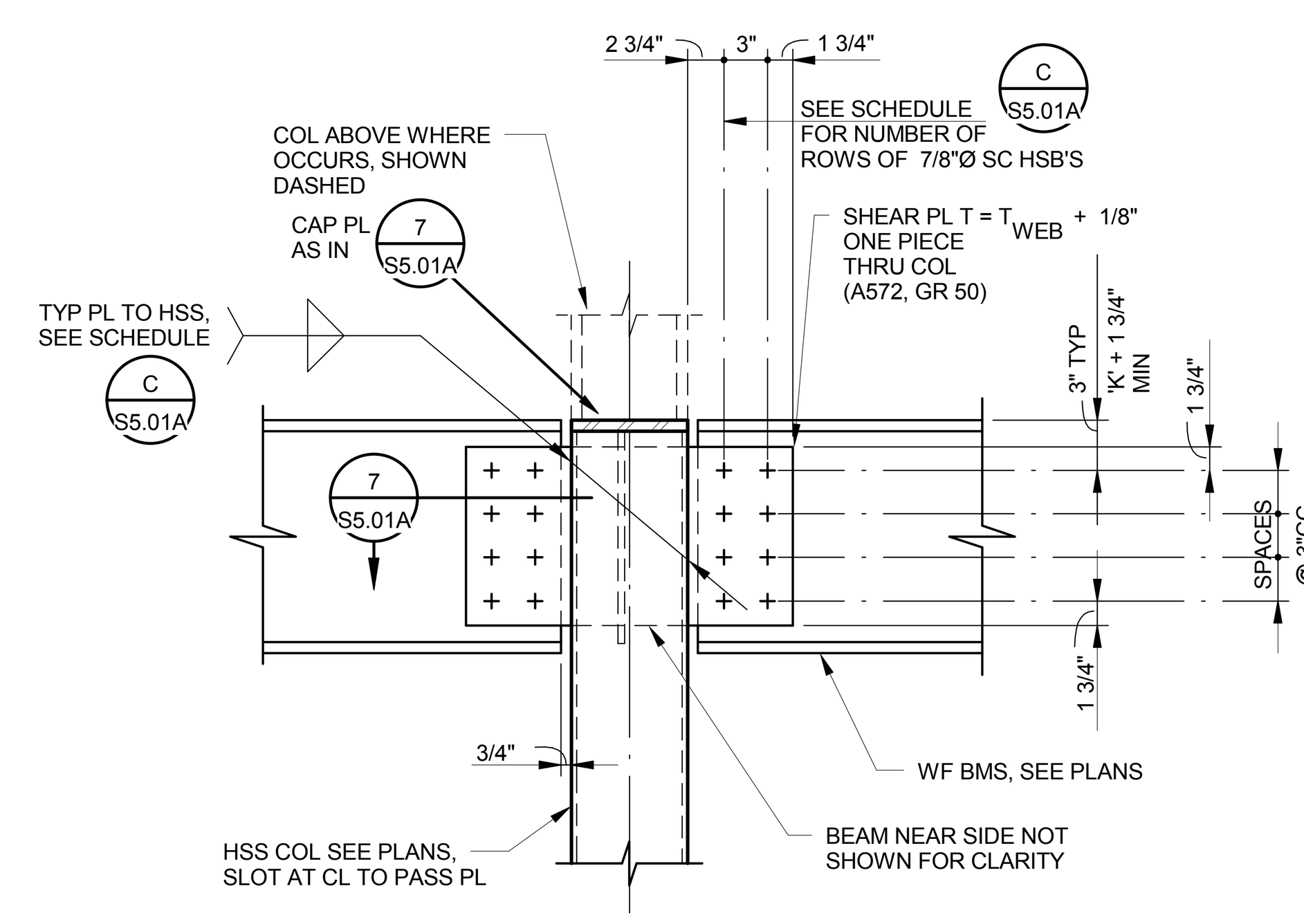
NOTE:
CONTRACTOR MAY USE HORIZONTAL SHORT SLOTTED HOLES FOR THESE CONNECTIONS ONLY. THE SHORT SLOTTED HOLES SHALL BE IN THE SHEAR PL WITH HARDENED WASHERS PROVIDED OVER THE SLOTS. TYPE 'N' BEARING CONNECTIONS SHALL BE USED.

5/S5.01A **DETAIL**
513SD002-12
BEAM TO BEAM - ONE SIDE



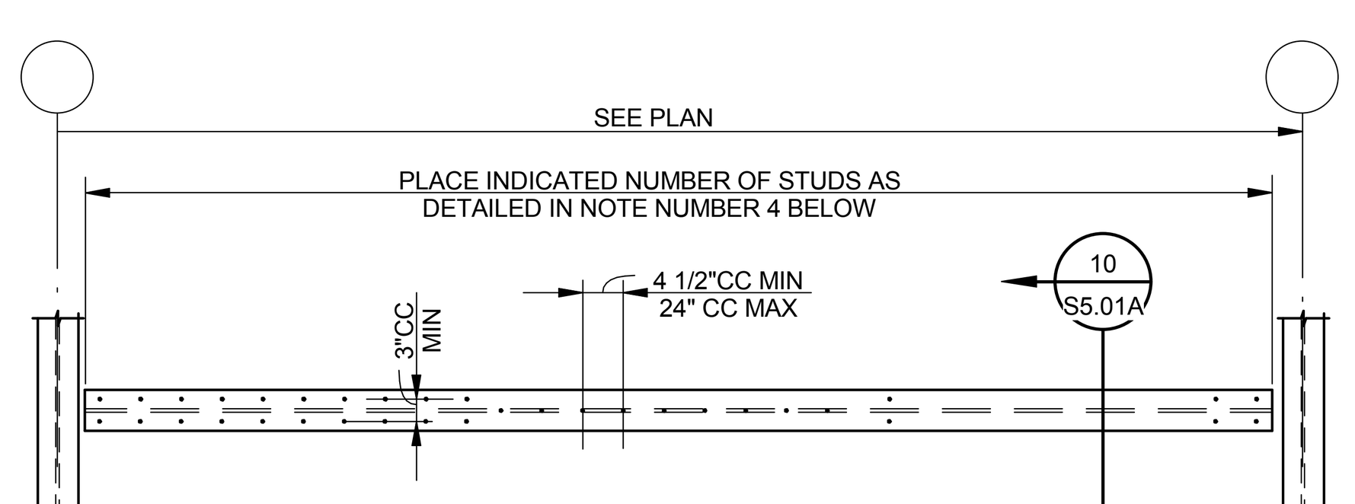
NOTE: CONTRACTOR MAY USE HORIZONTAL SHORT SLOTTED HOLES FOR THESE CONNECTIONS ONLY. THE SHORT SLOTTED HOLES SHALL BE IN THE SHEAR PL WITH HARDENED WASHERS PROVIDED OVER THE SLOTS. TYPE 'N' BEARING CONNECTIONS SHALL BE USED UNO ON THE DRAWINGS.

6/S5.01A **DETAIL**
513SD003-12
BEAM TO BEAM - TWO SIDES



NOTE: SIMILAR CONDITION AT 1-ROW SC SEISMIC CONNECTION WHERE INDICATED ON PLAN BY MK●

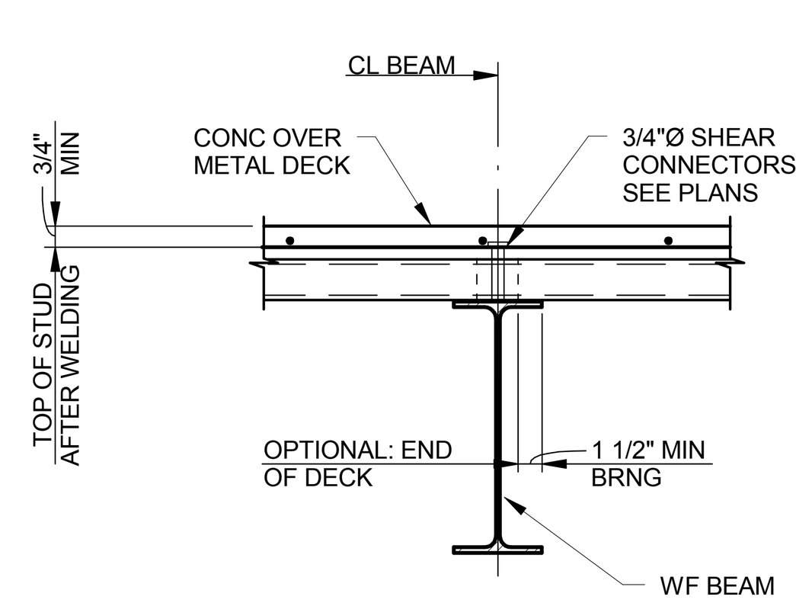
DETAIL 7/S5.01A
SEISMIC TIE WF BEAM TO HSS COLUMN
512SD026-12



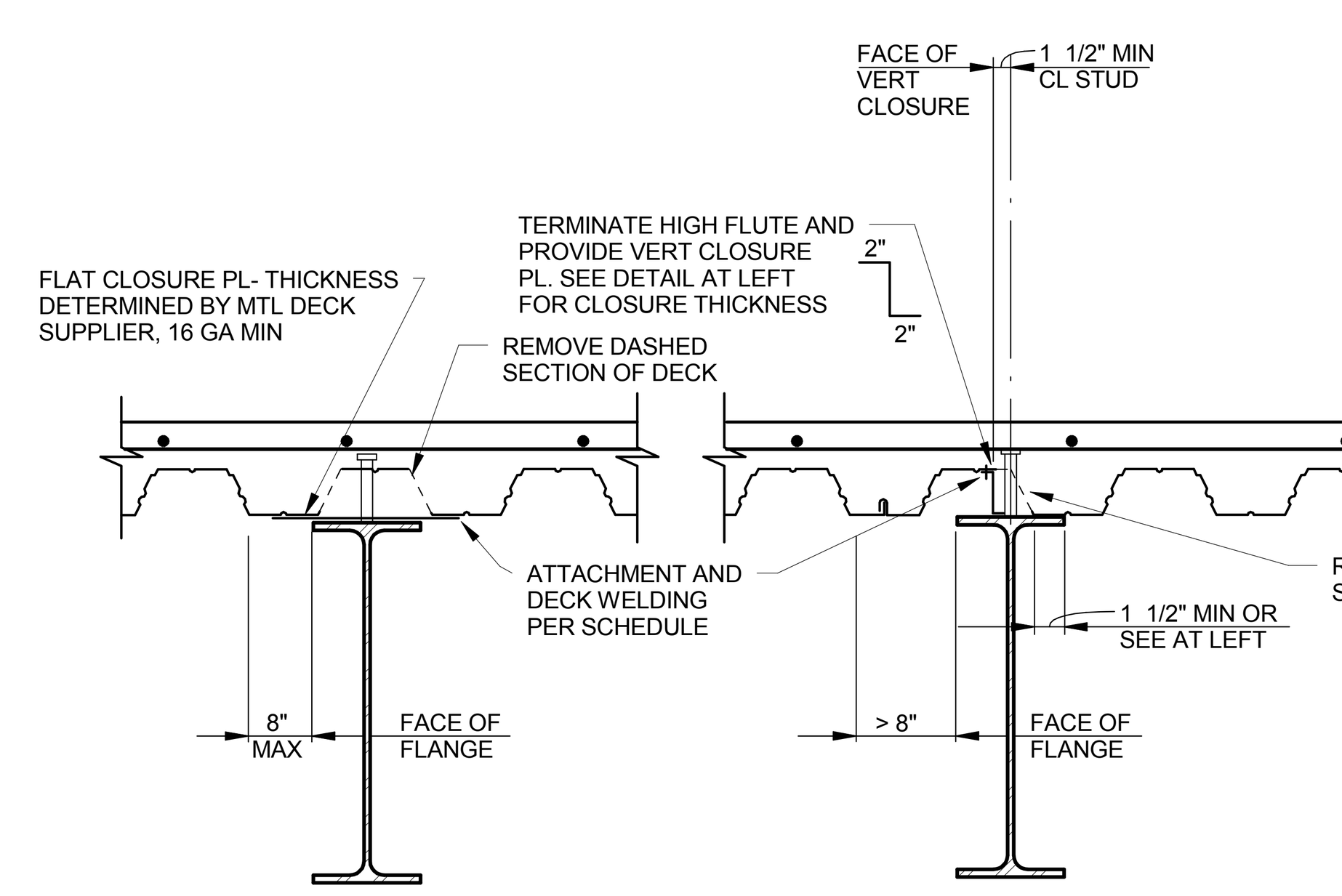
TYPICAL WF BEAM
(28) INDICATES NUMBER OF OF 3/4"Ø STUDS REQUIRED ON BEAM

NOTES:
1. SHEAR CONNECTORS FOR COMPOSITE BEAMS SHALL BE AUTOMATIC WELDED HIGH STRENGTH 3/4"Ø NELSON HEADED ANCHORS OR APPROVED EQUIVALENT.
2. ALL WELDING OF SHEAR CONNECTORS SHALL CONFORM TO THE LATEST EDITION OF "RECOMMENDED PRACTICES FOR STUD WELDING" AND "STRUCTURAL WELDING CODE" PUBLISHED BY THE AMERICAN WELDING SOCIETY.
3. SHEAR CONNECTORS SHALL PROJECT A MINIMUM OF 1 3/4" ABOVE THE TOP OF THE METAL DECK AND SHALL BE HELD A MINIMUM OF 3/4" CLEAR FROM TOP OF THE CONCRETE SLAB.
4. SHEAR CONNECTORS SHALL BE UNIFORMLY SPACED. USE NO MORE THAN ONE STUD PER RIB WHERE THE NUMBER OF SHEAR CONNECTORS REQUIRED IS LESS THAN OR EQUAL TO THE NUMBER OF RIBS AVAILABLE. WHERE THE NUMBER OF SHEAR CONNECTORS EXCEEDS THE NUMBER OF RIBS AVAILABLE, PLACE ONE SHEAR CONNECTOR PER RIB FULL LENGTH OF BEAM. PLACE BALANCE OF SHEAR CONNECTORS IN EACH RIB BEGINNING AT THE SUPPORTS AT EACH END AND MOVING TOWARD MID SPAN UNTIL THE REQUIRED NUMBER OF SHEAR CONNECTORS ARE SUPPLIED.
5. WHERE NOT INDICATED OTHERWISE, PROVIDE 3/4"Ø SHEAR CONNECTORS AT 24"CC MAXIMUM SPACING AT ALL BEAMS RECEIVING METAL DECK AND CONCRETE .
6. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO INSTALLATION.

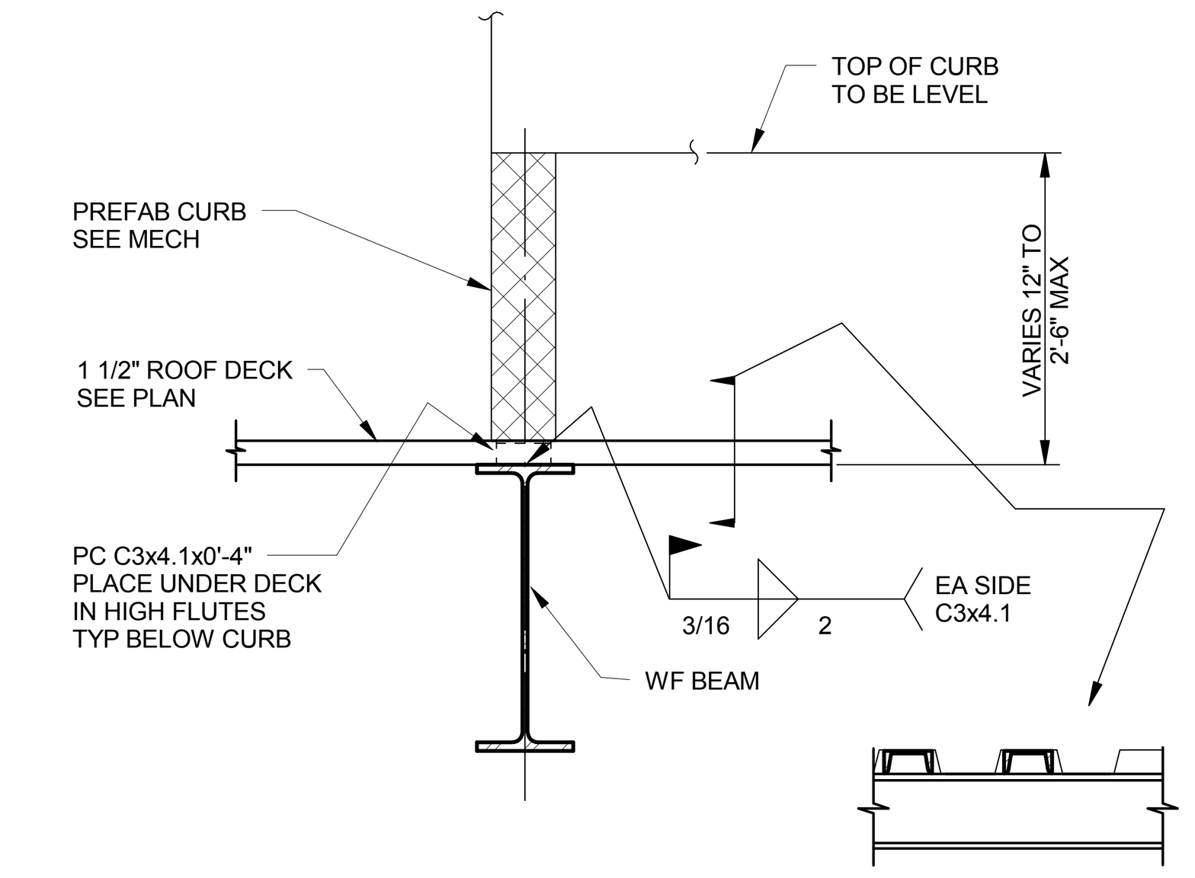
9/S5.01A **DETAIL**
531SD008-12



10/S5.01A **DETAIL**
531SD009-12
TYPICAL BEAM @ CONCRETE OVER METAL DECK



11/S5.01A **DETAIL**
531SD011-12
METAL DECK W/ CONCRETE PARALLEL TO BEAM



NOTE:
ATTACH PRE-MANFR'D CURB TO C PER MECH'L DWGS. USE 4- 5/8"Ø BOLTS MIN (1 PER CORNER) & COORD W/ CURB MOUNTING REQUIREMENTS PRIOR TO INSTALLATION.

12/S5.01A **DETAIL**
530SD009-12
MECH CURB @ ROOF DECK W/ Í3

FINAL BID DOCUMENTS

Revisions:	Date

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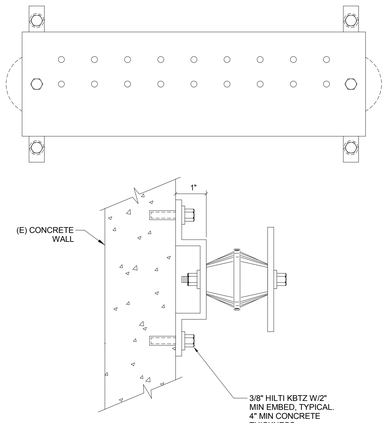
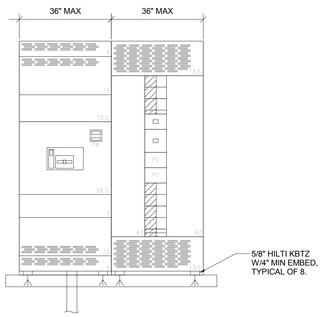
Drawing Title	Project Title	Project Number
STEEL DETAILS	**VA PALO ALTO BLDG 6 ADMINISTRATION EXPANSION**	**640-13-121P**
		Building Number: **6**
Approved: Project Director	Location: VAPAHCS - PALO ALTO, CA	Drawing Number: **S5.01A**
	Date: **04.17.2014** / Checked: **JDH** / Drawn: **Author**	Dwg. of

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

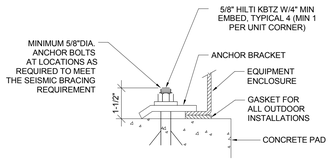


TECHNICAL GROUND BUS MOUNTING TO CONCRETE

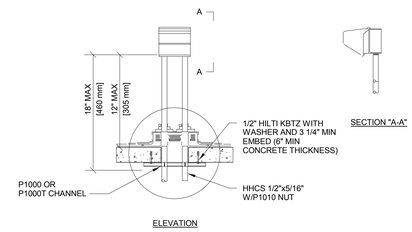


NOTE: MAX WT = 835# PER UNIT

6 NL OUTDOOR NEMA 3R SWITCHBOARD ELEVATION



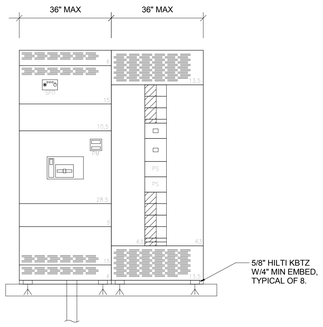
ANCHOR BOLT DETAIL



RECEPTACLE ROOF MOUNTING RETAIL

NOTES:

1. GC SHALL VERIFY ALL INSTALLATION DETAILS WITH EQUIPMENT MANFR'S REQUIREMENTS PRIOR TO INSTALLATION. COORDINATE ANCHOR, SCREW AND/OR EXPANSION BOLT SIZES WITH PRE-MANUFACTURED MOUNTING BRACKETS AND/OR PLATES PRIOR TO INSTALLATION. GC SHALL NOTIFY THE SEOR IF MANFR INSTALLATION REQUIREMENTS DIFFER FROM THE DRAWINGS.
2. THE INFORMATION SHOWN ON THESE DRAWINGS HAS BEEN PROVIDED BY OTHERS AND REVIEWED FOR SEISMIC CONNECTION REQUIREMENTS. REFER TO SHEET E505 FOR INFORMATION NOT SHOWN.
3. GC SHALL VERIFY THAT THE (E) AS-BUILT CONDITIONS COMPLY WITH THE REQUIREMENTS SHOWN IN THESE DRAWINGS PRIOR TO INSTALLATION. MINIMUM (E) CONCRETE STRENGTH SHALL BE 2500 PSI. GC SHALL NOTIFY THE SEOR IF (E) CONDITIONS DIFFER FROM THE DRAWINGS.



NOTE: MAX WT = 835# PER UNIT

INDOOR MAIN SWITCHBOARD ELEVATION

FINAL BID DOCUMENTS

Revisions:	Date

CONSULTANTS:

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Drawing Title	***ELECTRICAL DETAILS***
Approved: Project Director	
Project Title	***VA PA BLDG 6 LAB RENOVATION***
Location	***VAPAHCS, PALO ALTO CAMPUS 3801 MIRANDA AVE. PALO ALTO, CA 94304***
Date	***04.17.2014***
Checked	***BB***
Drawn	***SHG***
Project Number	***640-13-121P***
Building Number	***6***
Drawing Number	***SE505***
Dwg. of	

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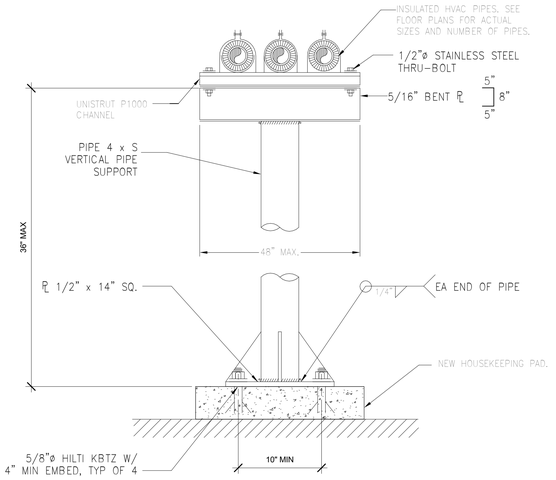
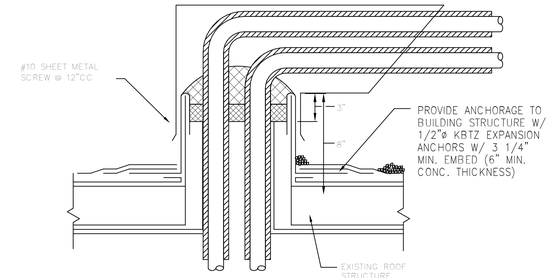
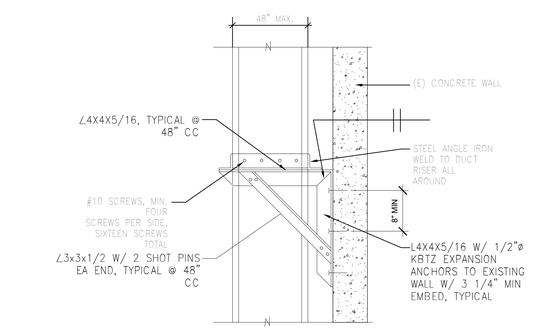


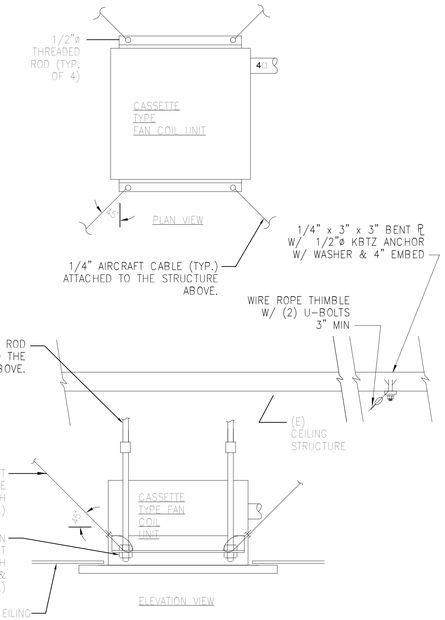
10 SERVICE YARD PIPE MOUNTING DETAIL



7 PIPING THRU ROOF DETAIL



4 SUPPLY AIR VAV FLOW CONTROL VALVE (VENTURI TYPE) DETAIL



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2.
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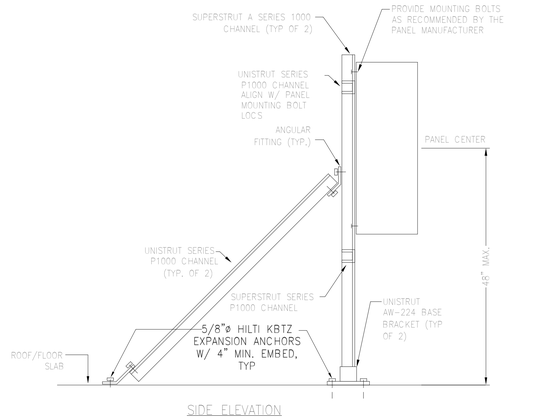
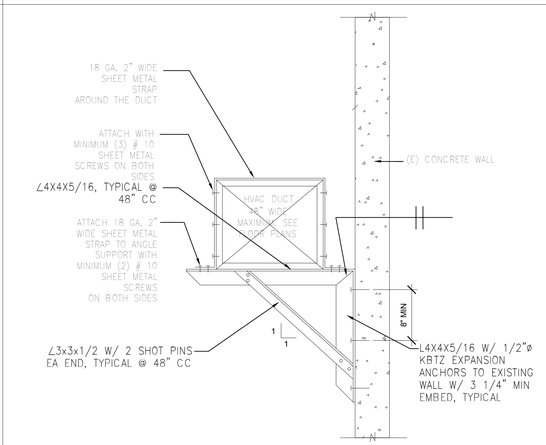
2 CEILING MOUNTED CASSETTE TYPE FAN COIL UNIT DETAIL



11 VFD ENCLOSURE MOUNTED ON ROOF / FLOOR SLAB DETAIL



5 DUCT RISER SUPPORT ON BUILDING EXTERIOR WALL

NOTES:

1. GC SHALL VERIFY ALL INSTALLATION DETAILS WITH EQUIPMENT MANFR'S REQUIREMENTS PRIOR TO INSTALLATION. COORDINATE ANCHOR, SCREW AND/OR EXPANSION BOLT SIZES WITH PRE-MANUFACTURED MOUNTING BRACKETS AND/OR PLATES PRIOR TO INSTALLATION. GC SHALL NOTIFY THE SEOR IF MANFR INSTALLATION REQUIREMENTS DIFFER FROM THE DRAWINGS.
2. THE INFORMATION SHOWN ON THESE DRAWINGS HAS BEEN PROVIDED BY OTHERS AND REVIEWED FOR SEISMIC CONNECTION REQUIREMENTS. REFER TO SHEET M507 FOR INFORMATION NOT SHOWN.
3. GC SHALL VERIFY THAT THE (E) AS-BUILT CONDITIONS COMPLY WITH THE REQUIREMENTS SHOWN IN THESE DRAWINGS PRIOR TO INSTALLATION. MINIMUM (E) CONCRETE STRENGTH SHALL BE 2500 PSI. GC SHALL NOTIFY THE SEOR IF (E) CONDITIONS DIFFER FROM THE DRAWINGS.

12

9 SUPPORT HORIZONTAL DUCT ON EXTERIOR WALL

6

Revisions:	Date

CONSULTANTS:

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Drawing Title: **MECHANICAL DETAILS**

Approved: Project Director

Project Title: **VA PA BLDG 6 LAB RENOVATION**

Location: **VAPAHCS, PALO ALTO CAMPUS**
3801 MIRANDA AVE. PALO ALTO, CA 94304

Date: **04.17.2014** | Checked: **BB** | Drawn: **SHG**

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